Two-Level Games and the Principal-Agent Problem

1 Two-Level Games

So far, we have only examined crises and international behavior by looking at strategic bargaining between the players (states). However, foreign policy behavior is driven by domestic considerations to a significant degree. When behavior at the international level is at least partially determined by domestic considerations, state leaders become engaged in a **two-level game**. At the *international level*, they interact strategically with their opponents engaging in the bargaining process we have been discussing. At the *domestic level*, they interact strategically with their domestic constituents whose support they need to stay in office.

For example, while the conflict in Vietnam dictated the necessity of a comprehensive military solution, the U.S. military was consistently handicapped by the Johnson administration which restricted the targets it could attack, determined the ground objectives, and even hand-picked bombing sites. While the army was interested in winning the war and wanted to use its overwhelming firepower to do it, the administration was trying to balance domestic concerns with international ones. Congress, which had abdicated responsibility for the conduct of war to the executive, was almost exclusively concerned with domestic issues, especially the costs of war measured in body bags and dollars. At one point the army claimed it was winning the war (based on its body count indicators that showed an attrition rate that greatly disadvantaged the North Vietnamese), Congress claimed the U.S. was losing the war (based on its indicators of U.S. soldiers killed and domestic economic problems), and the Presidency became locked in indecision between them, unable to win with its current strategy and unable to change the strategy sufficiently to ensure victory.

This example serves to illustrate how domestic politics can impinge on state efforts to implements its optimal bargaining strategy internationally. If the U.S. was going to successfully persuade the North Vietnamese that they could not win and thereby compel them to back down, the U.S. had to use all available means at its disposal. It was hampered in this by domestic concerns. What's worse, once protests against the Vietnam erupted, the North Vietnamese found out that they could hurt the U.S. much more by simply prolonging the war and killing enough American soldiers to cause the U.S. to quit. Suddenly, domestic developments in the U.S. gave the bargaining advantage to the Vietnamese. Despite its firepower and complete superiority in military forces, the U.S. found itself in a weak bargaining position with respect to the communists, whose authoritarian regime was not subject to the intense pressures in a democracy.

In a less bellicose setting, the executives of two countries may be engaged in international negotiations over terms of a trade treaty. In most cases, such treaties have to be

ratified by the popular assembly at home (Congress in the U.S. and parliaments elsewhere). In this two-level game, leaders must strike a deal that is not only as close as possible to their ideal points, but also be close enough to the ideal point of the median voter in the ratifying body or else ratification will fail.

2 The Principal-Agent Problem

What emerges from these stories, is a tension between the leaders and the public whom they are accountable to for their actions. One of the most important concepts in similar relationships is called the **principal-agent problem**. A principal is someone who has to delegate some tasks to an agent. The agent is then responsible for implementing the task, producing an outcome that affects the payoff of the principal.

The principal will generally look for agents who have preferences similar to his own because this would ensure that their action will, in fact, be advancing the interests of the principal. However, there are several problem with doing that:

- The reason the principal needs an agent in the first place is because he lacks the expertise to implement the action himself. The principal is forced to rely on the agent's knowledge when it comes to choosing appropriate course of action. If the agent's objectives are not the same as those of the principal, the principal finds himself at a disadvantage because the agent is in a good position to move the outcome closer to its ideal point instead to the ideal point of the principal.
- Deciding whether the agent has, in fact, moved the policy away from the principal's desired position is also difficult because it involves (a) monitoring the agent's performance, which requires more agents, each with its own set of interests, and (b) evaluating his performance based on the outcomes. In short, the principal may not have either the time, resources, or even the ability to evaluate the agent properly.
- Since agents possess private information about their knowledge and the effort they put toward some objective, the principal must use observable outcomes to evaluate the agent's compliance. This is further complicated by the fact that a lot of policies have very uncertain consequences. It becomes difficult to decide whether the policy has failed because the agent was incompetent, or because of some intervening circumstances that no one could have foreseen. Similarly, it may be difficult to credit an agent with a successful policy for essentially the same reason.

From all this, it may appear that agents can practically get away with anything because the principal will be unable to detect noncompliance. In practice, however, this is not the case. Let's look at the model in Figure 1 that demonstrates how a principal can benefit quite a bit from having multiple agents.

Two players, the Principal (P) and an Opponent (O), bargain over an arms control agreement that could potentially involve anything from complete disarmament to unbridled arms races. There exists a status quo agreement that does not really limit arms competition a whole lot, and which the two players are trying to revise. In the absence of a new agreement, the status quo prevails. P is more dovish than O.

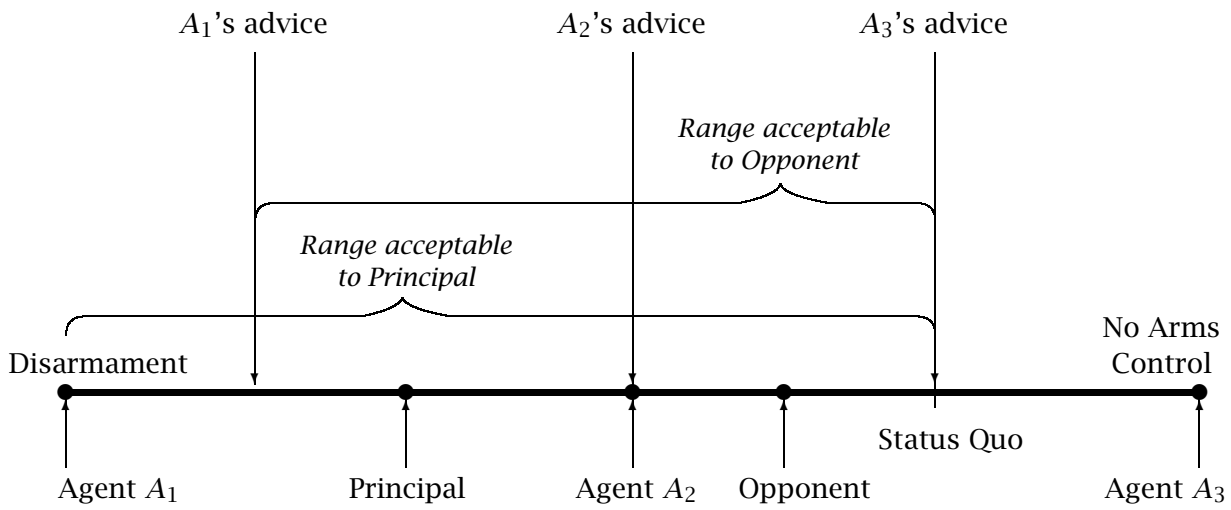

Figure 1: A Simple Model of Political Advice.

There are three agents among whose advice P may choose from. Agent A_1's ideal point is at the complete disarmament policy (a dove), agent A_3's ideal point is at the no arms control whatsoever policy (a hawk), and agent A_2's policy is moderate.

Assume that P does not know the ideal points of the agents and O, and therefore does not really know the range of treaties that it can negotiate (this range is the intersection of the acceptable ranges of P and O). The agents, in contrast, know O's range (that's why they are experts whose knowledge is needed), and we shall assume that O knows the range as well.

P can call upon these agents to negotiate a treaty based on their expert knowledge. However, each agent has its own preferences that may be quite extreme compared to that of P. Can these agents fool P and negotiate an agreement that is favorable to them but not to him?

Consider A_1's advice. Even though P would accept a recommendation of A_1's ideal point (it lies within his acceptance range), the agent knows that O would reject such a deal because it lies outside its acceptance range. So, A_1 proposes a point that would be barely acceptable to O while still well within P's range. However, P will not accept this advice because he infers from it that he can get an agreement at his own ideal point!

P must consider two possibilities: O's ideal point is either to the left of his own or to the right (but still to the left of the Status Quo because otherwise no deal would be possible). If O's ideal point is to the left of P's, then O would accept both the agent's proposed point and P's own ideal point because doing so would be an improvement over the status quo. Therefore, in this case P can propose his ideal point.

If O's ideal point is to the right of P's, then P infers from the agent's proposal that O's acceptance range extends to the left of his ideal point because the agent would not have proposed a deal that O would reject. But this means that the range includes P's own ideal point, and so he can propose it instead and get a better deal.

Even though P does not know the preferences of its agent or O, the agent is unable to manipulate him into accepting a deal worse than his ideal point. Every time P hears an advice to the left of his ideal point, he simply proposes his ideal point instead and gets the best possible deal.

The moderate agent A_2, on the other hand, can steer P toward a a less dovish position. This agent simply proposes his ideal point, and P cannot do much but accept it. Since he does not know either his agent's or O's ideal points, he does not know whether he can propose anything to the left of his A_2's advice that O would accept. Since proposing anything to the right of that advice would leave P worse off, he can do no better than following A_2's recommendation.

Agent A_3 is an extremist who wants no agreement whatsoever. However, he cannot obtain his most preferred outcome because if he proposes anything to the right of the status quo, there will be no deal, in which case the status quo level would prevail. If he proposes anything to the left of the status quo point but still to the right of P's ideal point, it will be accepted by both sides, leaving him worse off than the status quo. Therefore, this agent would simply propose the status quo point. This leaves P with a problem: he can infer that either A_3 prefers no deal to anything that would change the status quo or that O's ideal point is to the right of the status quo and a new deal simply is not possible. If the cost of making an offer that gets rejected is not very high, P can propose anything between his ideal point and the status quo in the hope that the agent is trying to manipulate him and a deal is, in fact, possible. Thus, the agent cannot make the situation worse for P although it also does not help him.

What do we conclude from all this? That even under uncertainty, agents are generally limited in their ability to manipulate the uninformed principal but not completely so. There exist possibilities for self-interested lying that would shift the outcome in a direction they prefer or at least prevent it from being shifted in the opposite direction.

Increasing the number of agents improves the principal's task of inferring what the correct (from his point of view) advice is. In the previous example, if P could solicit the advice of all three agents, he would be able to conclude that O's acceptance range includes his own ideal point and he would therefore be able to obtain his most preferred outcome.

Having a *biased* agent may be even more helpful. Generally, people recommend that leaders surround themselves with impartial experts. Conversely, many people deplore the frequently observable fact that leaders tend to surround themselves with "yes-men" whose preferences are usually very close to that of the leader himself. The y argue that the value of having agents who are biased in favor of some particular policy is low because they will always tend to recommend this policy.

But are biased agents always useless? It is quite possible that a biased agent may provide the best information. To see how, suppose the principal knows the bias of the agent. What should the principal infer if that agent suddenly recommends a policy contrary to its bias? The principal should clearly conclude that the situation requires such a policy so badly that the agent who is generally biased toward a different policy firmly believes his own preferred policy would not work.

Thus, a biased agent giving unexpected advice will be more useful than an unbiased agent who would simply recommend what policy he thinks is best. A biased agent's recom-

mendation must have been quite demanding if it overcame the agent's own bias, and so it sends a clear signal to the principal about the situation he otherwise knows little about.

3 Selectorates and Winning Coalitions

Our most recent discussion of social choice problems applies equally well to the view of foreign policy as result of elite preferences and its alternative view as result of popular preferences. In both cases, the leader acts as an agent but the principals differ in size.

This yields a simple stylization of the principal based on size of the group of people who have a say in determining the political fate of the agent (the leader). We call this group the **selectorate**, which is different from an electorate because it is not necessary that these people exercise their power through elections.

In a democracy, the selectorate consists of all eligible voters. In a monarchy, the selectorate consists of members of the royal family, perhaps with some support from powerful religious or military leaders. In a party-state like China or North Korea, the selectorate consists of the relatively few members of the Communist Party.

The selectorate is an important concept because it defines the interests that the agent (leader) must be responsive to. However, the leader does not necessarily have to be responsive to the entire selectorate. In fact, we shall define the **winning coalition** as that subset of members of the selectorate whose support is essential for the leader to stay in power.

Regimes with small selectorates (e.g. monarchies) will always have small winning coalitions as well. Some regimes with large selectorates, such as democracies, will also have relatively large winning coalitions. Other regimes with large selectorates, on the other hand, may have small winning coalitions. For example, in a totalitarian state, all adults may be eligible to vote but elections are rigged by the elites, and so the winning coalition is effectively restricted to them.

Leaders, who want to stay in office, only need satisfy the demands of the winning coalition, not the entire selectorate, and certainly not the public at large. By distributing **public goods** to the entire population regardless of its support for the regime, leaders can improve their chances as the general goodwill toward the regime increases. By distributing **private goods** among essential supporters leaders can improve their chances of survival in office even when the population as a whole might be ill-disposed toward the regime as long as the winning coalition's support is retained.

Leaders cannot pursue both strategies simultaneously and they have to make decisions how to allocate *limited resources* to maximize the probability that they will retain office. Because the support of the winning coalition is essential, leaders will distribute private goods to their supporters and, when these prove insufficient, they will proffer public policies designed to satisfy the public at large. In either case, the policies must be such that they satisfy the **median voter** if they are to work at all.

As the size of the winning coalition gets larger, private goods become spread ever so thinly and cannot make up for failed public policies. As the selectorate decreases in size, the incumbent's advantage in using private goods over the challenger's inability to gain access to them gets smaller: In a small selectorate, the risk of defecting from the winning

coalition in favor of a challenger is small because the defector will be very likely to become a member of the new winning coalition if the challenger comes to power. Therefore, leaders in systems with a large selectorate but a small winning coalition have the greatest chances of retaining office because they are most advantaged in securing the support of the winning coalition through distribution of private goods.

4 Gambling for Resurrection

In the Vietnam and Falklands stories, the voters are the principal and the leader is their agent. The agent is better informed about the war, the chances of winning it, and the costs of fighting it. The agent is also the one responsible for formulating foreign policy, conducting the war, and reporting the results to the principal.

The principal has an interest in the outcome of the policy while the agent has an interest both in the outcome and in retaining office. The uninformed selectorate must infer the ability of the agent to conduct beneficial policies from its performance because they cannot observe the agent's privately known capabilities. So, the voters use observable outcomes to decide whether the leader is competent or not. If they conclude that the leader is incompetent, they remove him from office and replace him with a new one. If, on the other hand, they conclude that the leader is competent, they will allow him to stay in office.

One prominent argument in international relations links the leaders' expected duration in office to their propensity to engage in conflicts. A leader who is not doing well domestically in the sense that his policies are failing to satisfy the median voter of the winning coalition does not expect to stay long in office.

A rational leader may therefore look for opportunities to improve his chances of staying in office by participating in a conflict with a foreign power that will (a) improve the voters' estimate of his competency, (b) provide private goods that he can distribute to the winning coalition, and (c) enjoy the rally around the flag effect as voters become less likely to remove a leader when he is in the middle of a war. Even when the probability of winning is not very high, these incentives can combine to make the expected utility of fighting higher than the near certainty of losing office in the absence of war. Therefore, a leader may **gamble for resurrection** by participating in a military crisis with another state.

This is truly a gamble. The uninformed voters (principal) may choose to retain the incompetent agent even if he loses the war and they may choose to remove the competent agent even if he wins. However, because fighting increases the variance in the probability of staying in office, victory increases the probability that the leader will be allowed to stay in power.

Such a gamble will frequently fail to pay the leader off because it requires fairly demanding circumstances to work. For example, while responding vigorously to a challenge may work exactly as described, initiating a crisis may be much more problematic. In particular, it must be the case that the winning coalition finds the conflict persuasive enough to shift its estimate of the leader.

When a leader initiates a conflict in a faraway place of little relevance to the voters, the windfall of victory may not be great. In fact, it may produce the exact opposite effect when

voters become convinced that the leader is actually gambling for resurrection. This may explain why Bush Sr. was voted out of office even after his glamorous victory over Iraq. The conflict was too remote for most voters who did not find it persuasive enough to offset the damage of his lackluster domestic policies.

5 Summary

- TWO-LEVEL GAMES involve strategic interaction between leaders at the *international level*, where they engage in bargaining, and strategic interaction between each leader and his *domestic constituency*, whose support he needs to stay in office or ratify agreements.
- THE PRINCIPAL-AGENT PROBLEM is a stylized description of two-level games, in which the **informed agent** must take action on behalf of the **uninformed principal**, and where the agent's compliance may be unverifiable and unobservable.
- The principal can benefit from having multiple agents, especially when some of them are **biased** and their biases are known.
- We assume that state leaders are **office-motivated**: they are above all else interested in staying in power. In contrast, the other state actors (elite, general populace) are **policy-motivated**: they are above all else interested in personal welfare.
- To stay in office, leaders must satisfy the members of the **winning coalition**, which is the group of people whose support is essential to his reelection. The winning coalition is a subset of the **selectorate**, which is the group of people who have a say in the political fate of the leader.
- Leaders pursue distributional policies to satisfy the demands of their constituency. They can provide either (a) **private goods** to the members of the winning coalition only, or (b) **public goods** to the everyone, but they generally are constrained by the limited available resources, and cannot pursue both strategies.
- Leaders are the agents of the winning coalition, whose **median voter** is the principal. That is, leaders must satisfy the demands of the median voter from the winning coalition in order to stay in office.
- When leaders face low prospects of staying in power because they have failed to satisfy the median voter, they may engage in **gambling for resurrection** by participating in a foreign military crisis with another state. This behavior, however, is quite risky and the tactic may only work under very limited circumstances.