# A Theory of Economic Sanctions and Issue Linkage: The Roles of Preferences, Information, and Threats

Dean Lacy
The Ohio State University

Emerson M. S. Niou
Duke University

A realistic theory of economic sanctions should be built on the facts that sanctions are a game of issue linkage involving two or more issues, players may not know each other's preferences for the outcome of the game, and threatening sanctions may be as important as imposing sanctions as a strategy in international disputes. The threat and use of economic sanctions are modeled as a multistage game of two-sided incomplete information between a target and a coercer. The threat stage is critically important for understanding the outcome of sanctions, and current empirical studies suffer from a case selection bias. Economic sanctions are likely to be imposed when they are not likely to succeed in changing the target's behavior. Sanctions that are likely to succeed will do so at the mere threat of sanctions. Despite the unlikely success of sanctions, coercers must sometimes impose sanctions, even after the threat of sanctions has failed to change the target's behavior.

Economic sanctions are an increasingly common tool of coercion in international disputes. Despite the prevalence of sanctions as a policy tool, the contentious literature on sanctions has failed to reach consensus on why sanctions are imposed and whether they succeed in achieving policy objectives. Most studies conclude that economic sanctions rarely meet their objectives, raising an interesting puzzle: why are economic sanctions so often imposed when they are unlikely to succeed?

One reason for the disharmony in studies of sanctions may be the method of research employed by scholars. Most assessments of sanctions examine cases in which sanctions were imposed in order to judge whether the sanctions succeeded in securing a state's objectives. Case studies and large-N data accumulation miss the real impact of sanctions as a policy tool. Sanctions, like punishments more generally, often work as threats even if they do not succeed when carried out. Sanctions are observed only when the threat of sanctions has failed.

A theory of economic sanctions should be built on the facts that sanctions are a game of issue linkage involving two or more issues, players may not know each other's preferences for the outcome of the game, and threatening sanctions is as

important as imposing sanctions as a strategy in international disputes. Some recent studies of economic sanctions have used the tools of game theory to explore the conditions under which sanctions will be imposed (Drezner 1998; Morgan and Miers 1999) or when they will be successful (Smith 1996; Tsebelis 1990). Existing models of economic sanctions require various restrictions on either the preferences held by the disputants or the information the disputants have about each other's preferences. We relax both assumptions and develop a model of sanctions and, more generally, issue linkage.

We begin with the premise that sanctions, like issue linkage, involve two or more issues over which player's preferences must be defined. Any incidence of sanctions involves a dispute on at least one issue as well as a conflict over the sanctions. Each side in a dispute has a preference for the disputed issue (or issues) as well as a preference for whether sanctions are imposed. We allow each disputant to have two different types, with each type having a different preference for the outcome of the dispute. A coercer may be either resolute or irresolute, determined by whether it prefers to impose sanctions if the target state does not comply with its demands. The target state may be either resilient or compliant, defined by whether it prefers to capitulate to the coercer's demands instead of suffering sanctions.

We allow both sides in a dispute to be uncertain about the preferences of their opponent, thereby extending existing game theoretic models. Game theoretic models of sanctions that are built on complete information produce unrealistic results, particularly that sanctions should not be imposed.

The theory of economic sanctions presented here also has implications for studies of issue linkage (see also Lacy and Niou 1998). Since cases of economic sanctions are, almost by definition, cases of issue linkage, it is surprising that models of sanctions and linkage have not been better integrated in the literature on international relations.[1] A case of issue linkage occurs when one party in a dispute introduces a new issue into the dispute, demanding that any resolution address all of the issues. Economic sanctions are one example of issue linkage in which a coercer demands a concession from a target. If the target does not comply with the coercer's demand, the coercer threatens action on a separate issue, such as restricting trade or failing to renew privileged trading status.

By generalizing the existing literature to include two-sided incomplete information, we offer new insights into the use and success of issue linkage and economic sanctions. The model produces four results for understanding the success of economic sanctions and issue linkage. First, a player's preferences for the issue under dispute and the imposition of sanctions are critically important to understanding the sanctions game. Second, threatening sanctions is as important as

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[1] For an exception, see Dorussen and Mo (2001). They develop a decision-theoretic model to show that the choice between the use of sanctions, incentives, or a combination of them depends on the level of interdependence between target and sender.

imposing sanctions as a strategy in international disputes. When sanctions are likely to be successful, it is the threat, not the imposition, of sanctions that changes a target state's behavior. Studies of sanctions that examine cases only in which sanctions were imposed therefore omit many of the most important cases in which sanctions—or at least the threat of sanctions—were successful. Third, states that ignore the threat of sanctions are unlikely to change their behavior after sanctions are imposed. Fourth, sanctions that do not change a target's behavior may still be successful by enhancing the coercer's reputation as a resolute player or by producing an outcome that the coercer prefers to the status quo.

Before presenting the model and results, we review the diverse literature on economic sanctions. We then develop the game-theoretic model and derive its equilibria. We conclude by discussing the implications of the results for theoretical and empirical research on economic sanctions.

## The Paradox of Economic Sanctions

Studies of economic sanctions have long sought to explain why economic sanctions so often fail (Baldwin 1985; Blanchard and Ripsman 1999; Galtung 1967; Hufbauer, Schott, and Elliott 1990; Martin 1992; Morgan 1990, 1994; Pape 1997, 1998). A large empirical literature, based primarily on data from Hufbauer, Schott, and Elliott (1990), examines whether sanctions usually succeed and under what conditions they fail. Hufbauer, Schott, and Elliott's data include cases in which sanctions were actually imposed by one country on another. Sanctions appear to fail in most cases. Hufbauer, Schott, and Elliott's optimistic view of sanctions is that they succeed in only about one-third of cases, while Pape's (1997, 1998) pessimistic view holds that they succeed in at most 5% of cases. A conundrum arises in the empirical literature on sanctions: if sanctions are prone to failure and are costly to enforce, why are they so often applied in international disputes?

The game theoretic literature on economic sanctions has produced another conundrum. In a game of complete information, sanctions should never be imposed. A state that is imposing sanctions will know whether sanctions are destined to succeed or fail, as will the state that is to be sanctioned. In equilibrium, a target that will ever change its behavior in response to sanctions will do so at the mere threat of sanctions. The coercer will then threaten sanctions only when the target will comply. Therefore, we should never observe sanctions in the real world. Several scholars have recently proposed game theoretic models to explain the occurrence of economic sanctions (Drezner 1998; Eaton and Engers 1992; Morgan and Miers 1999; Smith 1996; Tsebelis 1990). All of these models assume that one or more players have complete information about the other's preferences, and most omit the threat stage of sanctions.

We propose a new theory of economic sanctions that addresses several puzzles in the literature and clarifies the conditions under which sanctions will succeed or fail. The theory rests on two assumptions. First, each side in a dispute has dif-

ferent possible preferences for the outcome of the dispute. That is, not all states are the same. Second, players are uncertain of each other's preferences. By incorporating the very real possibility that states in a dispute may not know each other's true preferences, we generalize previous game theoretic models, making them more realistic.

## A Game of Economic Sanctions

Cases of economic sanctions involve a coercer who wants a target to comply with the coercer's demands on some issue, X. To gain concessions on the disputed issue, the coercer threatens sanctions, S. For simplicity, we assume that the issue under dispute has a binary outcome, such that $X = \{x, \sim x\}$. We will use the convention that $x$ = coercer's demand met on original issue, $\sim x$ = coercer's demand not met. Sanctions also involve a binary outcome, $S = \{s, \sim s\}$, where $s$ = sanctions, $\sim s$ = no sanctions.

The strategic moves in the game begin with a choice by the coercer of whether to threaten sanctions. After the coercer threatens sanctions, the target either complies with the coercer's demand on X or does not comply. The coercer then chooses whether to impose sanctions. After the coercer's decision to impose sanctions, the target decides whether or not to capitulate to the coercer's demands. The actions available to the players are, in sequence:

Coercer:   (Threaten Sanctions / Do Not Threaten Sanctions)
Target:      (Comply with Coercer's Demands / Do Not Comply with Coercer's
                  Demands)
Coercer:   (Impose Sanctions / Do Not Impose Sanctions)
Target:      (Capitulate to Coercer's Demands / Do Not Capitulate).

The possible outcomes of the game are:

O1 = (no threat) = the status quo
O2 = (threat, compliance) = $(x, \sim s)$
O3 = (threat, no compliance, sanctions, no capitulation) = $(\sim x, s)$
O4 = (threat, no compliance, sanctions, capitulation) = $(x, s)$
O5 = (threat, no compliance, no sanctions) = $(\sim x, \sim s)$

Figure 1 shows the sequence of moves. The game is strategically equivalent to a game in which the coercer imposes sanctions in the first stage and then decides whether to lift the sanctions or to escalate the conflict in the second stage. In this regard, the game is consistent with Baldwin's (1985) argument that in order to study sanctions, one must also study the alternatives to sanctions, such as the use of military force. Any conflict usually begins with a threat by a coercer, followed by a reaction from a target, followed by an action by the coercer that either escalates or deescalates the conflict.

Table 1 defines preference rankings over outcomes for the coercer and the target. A player's preference ranking for the outcomes of two or more issues

FIGURE 1

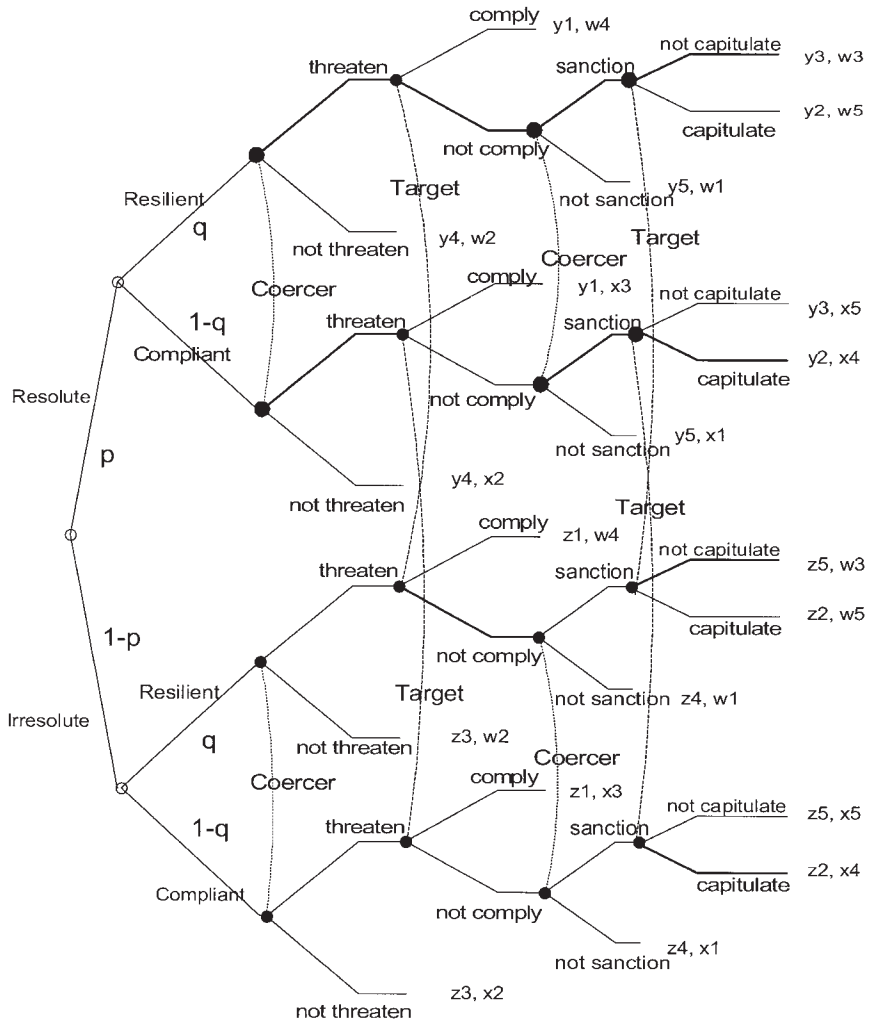## The Economic Sanctions Game in Extensive Form

TABLE 1

Payoffs for Target (Resilient or Compliant) and Coercer
(Resolute or Irresolute)

| | Target | | Coercer | |
| Outcome | Resilient | Compliant | Resolute | Irresolute |
| --- | --- | --- | --- | --- |
| O1 = (no threat) | w2 | x2 | y4 | z3 |
| O2 = (threat, compliance) | w4 | x3 | y1 | z1 |
| O3 = (threat, no compliance, sanctions, no capitulation) | w3 | x5 | y3 | z5 |
| O4 = (threat, no compliance, sanctions, capitulation) | w5 | x4 | y2 | z2 |
| O5 = (threat, no compliance, no sanctions) | w1 | x1 | y5 | z4 |

(in this case, whether the target complies with the coercer and whether sanctions
are imposed) may be either separable or nonseparable. A player's preferences
are separable if its preference for the outcome of X does not depend on—can
be separated from—the outcome of S. A player's preferences are nonseparable
if its preference for the outcome of X depends on the outcome of S, or
vice-versa.[2]

We specify two types of targets: resilient targets (TR) and compliant targets
(TC). Resilient targets would prefer to suffer sanctions without complying with
or capitulating to the coercer's demands. A compliant target would rather concede
on issue X than suffer economic sanctions. Both types of targets prefer O5 =
(threat, no compliance, no sanctions) to the status quo, O1 = (no threat), since
the actions leading to O5 imply a victory for the target that may carry future ben-
efits such as an enhanced international reputation and insurance against future
sanctions. The worst outcome is O3 = (threat, no compliance, sanctions, no capit-
ulation) for the compliant target. For the resilient target the worst outcome is
either O2 = (threat, compliance) or O4 = (threat, no compliance, sanctions, capit-
ulation). We will assume that O4 is worse than O2 for the resilient target since
it is worse to have suffered the cost of sanctions before conceding on X than not
to have suffered sanctions. However, the results that follow hold regardless of the
target's relative ranking of O2 and O4.

In short, for the compliant target, O5 > O1 > O2 > O4 > O3; for the resilient
target, O5 > O1 > O3 > O2 > O4. O5 and O1 imply the same outcome, $(\sim x, \sim s)$,
only with O5 involving a reputation gain for the target due to resisting the
coercer's demands. Therefore, the compliant target's preference ordering is $(\sim x,
\sim s) > (x, \sim s) > (x, s) > (\sim x, s)$. This ranking is nonseparable since $\sim x > x$ given

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[2] For further details on separable and nonseparable preferences, see Ordeshook (1986), Lacy and
Niou (2000) or Lacy (2001).

~s, but x > ~x given s. The resilient target has separable preferences, given by the ordering (~x, ~s) > (~x, s) > (x, ~s) > (x, s). In this case, ~x > x regardless of whether sanctions are imposed.

We assume that a coercer prefers not to impose economic sanctions if the target complies on issue X; thus the coercer always prefers to avoid the costs of economic sanctions. The coercer might have a preference ordering O2 > O4 > O1 > O5 > O3, which is equivalent to (x, ~s) > (x, s) > (~x, ~s) > (~x, s). In this case, the coercer's preferences are separable since it always prefers ~s to s regardless of whether the target concedes on X. We describe such a coercer as irresolute since it prefers not to impose economic sanctions regardless of whether the target complies.

The coercer might also rank the outcomes O2 > O4 > O3 > O1 > O5, or (x, ~s) > (x, s) > (~x, s) > (~x, ~s). If the target complies, the coercer prefers no sanctions to sanctions; if the target does not comply, the coercer prefers sanctions to no sanctions. This coercer has nonseparable preferences, and we describe it as resolute since it prefers to incur the cost of sanctions if the target does not comply with the coercer's original demand. Such a preference ranking might also be held by a state that does not want to lose credibility in international bargaining by allowing the target to continue defying the coercer's demand while not suffering sanctions. Both types of coercers prefer the status quo (O1) to O5 due to the loss of reputation and credibility associated with backing down against a target after threatening sanctions.

Negotiations between the United States and China over China's permanent "most favored nation" (MFN) status illustrate the different types of players. In 1993 and 1994, the Clinton administration held that the United States would not extend MFN status to China, thereby creating an economic sanction, if China did not improve its human rights record. U.S. officials claimed that China's MFN status could not be separated from improvements in its human rights record. The United States wanted China to believe that it was a resolute coercer, who preferred not to impose economic sanctions if China conceded on human rights, but who preferred to impose sanctions if China did not concede.

Later, the Clinton administration revealed that its preferences were separable: the United States preferred not to sanction China regardless of whether China conceded on human rights. We describe such a coercer as irresolute, though the term should not be taken as a sign of weakness. Instead, the administration simply bluffed that its preferences were nonseparable when they were actually separable. This bluff was a strategy intended to extract concessions from China on human rights. China called the U.S. bluff, leading the Clinton administration to reveal that its preferences for human rights improvements and granting MFN status were indeed separable.

Similarly, China could have had either separable or nonseparable preferences for meeting U.S. demands on human rights and suffering economic sanctions in the form of losing MFN status. China could have been compliant, preferring to concede on human rights instead of suffering sanctions. Or, China could have

been resilient, preferring not to concede on human rights regardless of whether it suffered sanctions.

More generally, a compliant target prefers to concede on the disputed issue and not suffer sanctions than not to concede and suffer sanctions. Such a preference may imply that the economic costs of sanctions are sufficiently high to outweigh the benefits of not conceding on the disputed issue. Our model incorporates the cost of sanctions in the preference ranking of the players. A resilient target prefers to suffer sanctions and not back down on the disputed issue rather than avoiding sanctions while backing down. The reason for such a preference could be economic: the costs of conceding on the disputed issue outweigh the costs of sanctions. But the resilient target's preferences could be rooted in noneconomic considerations, such as the domestic or international political cost of backing down. The model is general enough to capture either economic or political costs in the target's preferences.

Similarly, the resolute coercer prefers to impose sanctions if the target does not comply, but the irresolute coercer prefers not to impose sanctions. The difference between the two types may be due to differences in their ability to withstand the economic costs of imposing sanctions. The difference could also be due to political considerations. The Clinton administration had separable preferences for China's human rights record and imposing sanctions on China probably for reasons other than economic cost. Smith (1996) and Kaempfer and Lowenberg (1992) argue that economic sanctions may produce a domestic political benefit for a country, from protecting industries to satisfying interest groups.

An important difference between our model and existing models is that the different types of players are not defined by their capability; there are not "strong" or "weak" types. Models that rely on incomplete information about a player's capability are probably not realistic. It is unlikely that China has doubts about U.S. military or economic capability. Rather, in our model the incomplete information about a player's type is due to lack of information about its preferences. Assuming that players have incomplete information about each other's preferences is far more realistic than assuming that they have incomplete information about each other's capabilities.

In the game that follows, neither state knows with certainty the other state's preference ranking, thus the game is one of two-sided incomplete information. The coercer may have either separable or nonseparable preferences for imposing sanctions, and the target may have either separable or nonseparable preferences for conceding on the issue under dispute. The target does not know whether the coercer is resolute or irresolute, and the coercer does not know whether the target is resilient or compliant.

We assume that the target assesses probability p that the coercer is resolute and probability 1-p that the coercer is irresolute. The coercer assesses probability q that the target is resilient and probability 1-q that it is compliant. Nature assigns these probabilities at the beginning of the game.

Given the preference rankings and reasoning backward along the game tree, if the coercer is resolute, then it is always in its interest to threaten sanctions instead of accepting the status quo. If the target does not comply, the coercer will impose sanctions if it is resolute and will not impose sanctions if it is irresolute. If the target is resilient, its dominant strategy is not to comply with the coercer's demands. After eliminating dominated strategies, we can now solve the game by constructing its normal form using the remaining type-contingent strategies for target and coercer. For the coercer, the first strategy listed is for a resolute player; the second, for an irresolute player. For the target, the first strategy is played by a resilient player, the second by a compliant one:

Coercer:
  (Threaten/Sanction, Threaten/Sanction) = (TS, TS)
  (Threaten/Sanction, Threaten/Do Not Sanction) = (TS, T~S)
  (Threaten/Sanction, Do Not Threaten/Sanction) = (TS, ~TS)
  (Threaten/Sanction, Do Not Threaten/Do Not Sanction) = (TS, ~T~S)

Target:
  (Do Not Comply/Do Not Capitulate, Comply/Capitulate) = (~C~C, CC)
  (Do Not Comply/Do Not Capitulate, Do Not Comply/Capitulate) = (~C~C, ~CC)

Table 2 displays the equivalent reduced normal form of the extensive form game illustrated in Figure 1. The first line in each cell is the expected value of the outcome to the coercer; the second line, to the target. To see how we determine the payoffs in one cell of the game's normal form, suppose that the coercer chooses (TS, TS) and target chooses (~C~C, CC). Given this strategy pair, one of the following four outcomes can occur. First, the coercer is resolute (with probability $p$) and target is resilient (with probability $q$); the outcome is $y3$ for the coercer and $w3$ for target. Second, the coercer is resolute (with probability $p$) and target is compliant (with probability $1-q$); the outcome is $y1$ for the coercer and

TABLE 2

Equilibria in Reduced Normal Form Equivalent

| (Resolute, Irresolute) | (Resilient, Compliant) | |
| --- | --- | --- |
| | (~C~C, CC) | (~C~C, ~CC) |
| (TS, TS) | $pqy3+p(1-q)y1+(1-p)qz5+(1-p)(1-q)z1$ $pqw3+p(1-q)x3+(1-p)qw3+(1-p)(1-q)x3$ | $pqy3+p(1-q)y2+(1-p)qz5+(1-p)(1-q)z2$ $pqw3+p(1-q)x4+(1-p)qw3+(1-p)(1-q)x5$ |
| (TS, T~S) | $pqy3+p(1-q)y1+(1-p)qz4+(1-p)(1-q)z1$ $pqw3+p(1-q)x3+(1-p)qw1+(1-p)(1-q)x3$ | $pqy3+p(1-q)y2+(1-p)qz4+(1-p)(1-q)z4$ $pqw3+p(1-q)x4+(1-p)qw1+(1-p)(1-q)x1$ |
| (TS, ~TS) | $pqy3+p(1-q)y1+(1-p)qz3+(1-p)(1-q)z3$ $pqw3+p(1-q)x3+(1-p)qw2+(1-p)(1-q)x2$ | $pqy3+p(1-q)y2+(1-p)qz3+(1-p)(1-q)z3$ $pqw3+p(1-q)x4+(1-p)qw2+(1-p)(1-q)x2$ |
| (TS, ~T~S) | $pqy3+p(1-q)y1+(1-p)qz3+(1-p)(1-q)z3$ $pqw3+p(1-q)x3+(1-p)qw2+(1-p)(1-q)x2$ | $pqy3+p(1-q)y2+(1-p)qz3+(1-p)(1-q)z3$ $pqw3+p(1-q)x4+ (1-p)qw2+(1-p)(1-q)x2$ |

x3 for the target. Third, the coercer is irresolute (with probability 1-p) and the target is resilient (with probability q); the outcome is z5 for the coercer and w3 for the target. Fourth, the coercer is irresolute (with probability 1-p) and the target is compliant (with probability 1-q); the outcome is z1 for the coercer and x3 for target. Thus, with (TS, TS; ~C~C, CC), the expected payoff for the coercer is pqy3 + p(1-q)y1 + (1-p)qz5 + (1-p)(1-q)z1, and for the target the payoff is pqw3 + p(1-q)x3 + (1-p)qw3 + (1-p)(1-q)x3.

In Table 2, three strategy pairs are possible Nash equilibria, highlighted in bold:

(1) (TS, T~S; ~C~C, CC) = (Threaten/Sanction, Threaten/Do Not Sanction; Do Not Comply/Do Not Capitulate, Comply/Capitulate),
(2) (TS, ~TS; ~C~C, CC) = (Threaten/Sanction, Do Not Threaten/Sanction; Do Not Comply/Do Not Capitulate, Comply/Capitulate), and
(3) (TS, ~T~S; ~C~C, CC) = (Threaten/Sanction, Do Not Threaten/Do Not Sanction; Do Not Comply/Do Not Capitulate, Comply/Capitulate).

We first examine the strategy pair, (TS, T~S; ~C~C, CC). For this strategy pair to be an equilibrium, neither the coercer nor the target would have incentives to deviate from the prescribed strategies. This implies that for (TS, T~S; ~C~C, CC) to be an equilibrium, the following weak inequalities must be satisfied.

$$qz4 + (1-q)z1 \geq z3 \tag{1}$$

$$x3 \geq (1-p)x1 + px4 \tag{2}$$

Considering inequality (1), ceteris paribus, the irresolute coercer is more likely to threaten sanctions if: (a) the target is likely to be compliant (q is low), (b) if the cost of backing down after threatening sanctions compared to the value of accepting the status quo is relatively low (z3-z4 is small), or (c) if the value of the target complying is sufficiently higher than the status quo (z1-z3 is large).

For the compliant target, inequality (2) suggests that the target will comply if threatened and capitulate if sanctioned, (CC), if the coercer is likely to be resolute (p is large), if the cost of complying on X is relatively low, or if the cost of sanctions is relatively high.

When inequality (1) is reversed, (TS, ~TS; ~C~C, CC) and (TS, ~T~S; ~C~C, CC) become the equilibria, though both lead to the same outcome and payoffs. If the target is likely to be resilient (q is high), if the cost of backing down after threatening to sanction is relatively high, or if the value of the target complying is not much higher than the value of accepting the status quo, it is more likely that the irresolute coercer will choose not to threaten sanctions in the first place. If inequality (1) is an equality, then all three strategy combinations are Nash equilibria since the coercer has no incentive to deviate from any of the three strategies.

To examine whether these Nash equilibria are also perfect Bayesian equilibria, we check whether the prescribed moves in the off-the-equilibrium-path information sets are credible. In Figure 1, the equilibrium paths are shown in bold

lines. The target has four information sets. But since the resolute coercer always chooses to threaten and sanction, all four information sets are on the equilibrium path. We need only to check whether the irresolute coercer has any off-the-equilibrium-path information sets. If (TS, T~S; ~C~C, CC) is the equilibrium, then all four information sets controlled by coercer are on the equilibrium path. If (TS, ~TS; ~C~C, CC) is the equilibrium, then we must examine whether the decision to escalate by the irresolute coercer is credible if that information set is reached. The equilibrium strategy prescribes that the resilient target chooses not to comply after the coercer chooses to threaten sanctions while the compliant target chooses to comply. If the irresolute coercer's off-the-equilibrium-path information set is reached, then she should reason that she is at the upper decision node with probability 1, which implies that not imposing sanctions is a better move than imposing sanctions. The irresolute coercer's move of imposing sanctions is not credible. Between (TS, ~TS; ~C~C, CC) and (TS, ~T~S; ~C~C, CC), only the latter is a perfect Bayesian equilibrium.

In short, (TS, T~S; ~C~C, CC) and (TS, ~T~S; ~C~C, CC) are perfect Bayesian equilibria. The strategy pair (TS, ~TS; ~C~C, CC) is a Nash equilibrium, but not a perfect Bayesian equilibrium.

When inequality (1) is satisfied but inequality (2) is not, the game does not have a pure strategy equilibrium, but it has at least one equilibrium in mixed strategies (Nash 1951). Inequality (2) is less likely to be satisfied if: (1) the coercer is more likely to be irresolute (1-p is high); (2) the value of not complying without being sanctioned is high ($x_1$ is high); or (3) the difference between complying after being threatened and capitulating after being sanctioned is small ($x_3$-$x_4$ is small). The mixed-strategy equilibrium is trivially a perfect Bayesian equilibrium since all the information sets in the game will be reached with some probability. No information set is off the equilibrium path.

In equilibrium, player types are separating in the sanction stage but pooling in the threat stage. Both a resolute and an irresolute coercer may threaten sanctions. But if the target state does not comply, then the resolute coercer will impose sanctions while the irresolute coercer will not impose sanctions. Two important insights follow from the equilibrium results. First, the threat stage is critical for understanding sanctions. When sanctions are successful, their success will often come at the threat stage. When a target does not comply, then the game proceeds to the sanctions stage. In the sanctions stage, sanctions will be applied only when a resolute coercer meets a resilient target, which highlights the second insight from the model: When sanctions are actually imposed, they often will not succeed.

Based on the equilibrium results, we describe the conditions under which each of the five possible outcomes will arise, giving empirical examples of each.

**Outcome 1:** Coercer does not threaten sanctions.

**Conditions:** The coercer is irresolute, and, to the coercer, the cost of backing down if the target ignores the coercer's threat is high, and the value of the target complying is not much greater than the value of maintaining the status quo.

**Example:** In the second Clinton administration, the United States did not link renewal of China's most favored nation status to improvements in its human rights record. The administration may have been irresolute while perceiving China to be resilient. Furthermore, the reputation cost of backing down against the PRC is high. There are surely many other examples of nonthreatened sanctions, but observing these nonevents is difficult.

**Outcome 2:** Coercer threatens economic sanctions, target complies.

**Conditions:** Outcome 2 describes the conditions under which sanctions are probably most successful. But note that in this case sanctions are never imposed, only threatened. The conditions are that the target is compliant, the cost of complying is low, and the cost of sanctions is high. To make the conditions sufficient, then (a) the coercer believes the target is likely to be compliant, (b) the cost of backing down if the target does not comply is low, and (c) the value of the target complying is much greater than the value of maintaining the status quo.

**Example:** If we are to judge the success of economic sanctions, then full examination of this category of outcomes is critical. Outcome 2 demonstrates that debates about the success of sanctions that fail to consider the threat stage will miss the point of sanctions. Eaton and Engers (1992) describe several cases in which the threat of sanctions produced a change in the behavior of a target state. The Montreal Protocol of 1989 called for trade sanctions against nonparties that failed to control use of chlorofluorocarbons. Parson (1991) describes how this threat induced Taiwan and Korea to comply with the provisions of the agreement. As another example, Hudec relates the success of section 301 of the U.S. Tariff Act contained in the 1988 Omnibus Trade and Competitiveness Act. According to Hudec, "the first annual Super 301 review procedure, conducted in April and May 1989, induced a surprisingly large number of foreign governments to adopt trade-liberalizing measures in order not to be singled out" (1990, 115). Milner confirms this account, noting that the provision "seemed to 'scare' some countries into opening their markets" (1990, 178).

In both cases, the targets likely believed that the coercers were resolute. The targets were likely compliant since the costs of sanctions—lost trade with the United States—was high.

**Outcome 3:** Coercer threatens economic sanctions, target does not comply, coercer imposes sanctions, target does not capitulate.

**Conditions:** The necessary and sufficient conditions are that the coercer is resolute and target is resilient.

**Example:** The classic cases of the failure of economic sanctions are examples of this outcome. The Soviet Union did not withdraw its troops from Afghanistan

after the U.S. grain embargo in 1979. Iraq did not withdraw from Kuwait in 1990 and 1991 despite sanctions by the United Nations. The Castro regime in Cuba has been under a general U.S. embargo since the 1960s. All of these are cases of a resolute coercer in conflict with a resilient target.

**Outcome 4:** Coercer threatens economic sanctions, target does not comply, coercer imposes sanctions, target capitulates.

**Conditions:** In either of the perfect Bayesian equilibria in pure strategies described above, the compliant target always complies after the coercer makes a threat. Only the resilient target will hold out. But the resilient target will not capitulate even if the coercer imposes punishment. Therefore, Outcome 4 can occur only in a mixed-strategy equilibrium, that is, when inequality (2), $x_3 \geq (1-p)x_1 + px_4$, is not satisfied. The conditions for a compliant target to defy the threat of sanctions but to capitulate once sanctions are imposed are: (1) the target believes that the coercer is irresolute ($p$ is small), (2) the value of not complying without being sanctioned is high ($x_1$ is high), or (3) the difference in value between complying after being threatened and capitulating after being sanctioned is small ($x_3$-$x_4$ is small).

**Example:** Blanchard and Ripsman (1999) examine three cases of sanctions in which the target capitulated to the coercer's demands after sanctions were imposed. In 1933 the United Kingdom barred importation of a number of goods from the Soviet Union after the Soviets imprisoned two British citizens. In 1979 several Arab states imposed sanctions on Canada after the Canadian government announced it would move its embassy in Israel from Tel Aviv to Jerusalem. In 1989 and 1990, India imposed economic sanctions on Nepal after Nepal increased military ties with China. In all cases, the target state complied with the coercer's demands after sanctions were imposed.

   Our model predicts that such outcomes are not often observed since they involve the play of mixed strategies. Mixed strategies are used by players to keep their opponents guessing. An irresolute coercer plays a mixed strategy of imposing or not imposing sanctions in order to avoid having target states take advantage of the coercer. In the three cases above, the coercers likely realized that in order to avoid their opponents' taking advantage of them, they must *sometimes* impose sanctions, even if the sanctions may not be successful. Similarly, compliant targets know that in order to avoid being taken advantage of by potential coercers who threaten sanctions, they must *sometimes* avoid backing down to the initial threat of sanctions. The compliant targets then force the hands of irresolute coercers by making them impose sanctions. By assigning some probability to the strategy of not complying with threatened sanctions, the compliant target may deter irresolute coercers from threatening sanctions.

**Outcome 5:** Coercer threatens economic sanctions, target does not comply, coercer does not impose sanctions.

**Conditions:** The target is resilient and the coercer is irresolute. In addition, the coercer believes the target is likely to be compliant, the cost of backing down if the target does not comply is low, and the value of the target complying is much greater than the value of maintaining the status quo. If the game proceeds to the stage where the coercer must decide whether to impose sanctions when the target has not backed down, it must be that the irresolute coercer miscalculates the target's resilience in the first stage but decides to further test it in the second stage.

**Example:** In the early days of the Clinton administration, U.S. policymakers apparently wanted to grant China MFN status in exchange for improvements in China's human rights record. But without an improvement in China's human rights status, the United States preferred not to grant MFN status. The Clinton administration acted as though it were resolute, but the administration was likely bluffing in order to induce China to improve its human rights record. China did not comply with U.S. demands, and the Clinton administration later pushed for China's MFN status and membership in the World Trade Organization.

## Discussion

The conditions under which each of the outcomes will arise reveal that even if sanctions are threatened, they may not be imposed, and, if imposed, they may not be successful. In only two of these outcomes does a coercer ever impose sanctions. In both cases the target is resilient and unlikely to capitulate. The model explains several puzzles in the literature on economic sanctions and issue linkage.

First, some scholars have defined success in narrow terms to mean that a state achieves its most preferred outcome, and they have concluded from case studies that economic sanctions generally do not succeed (e.g., Pape 1997, 1998). The real success of sanctions will not be observable in cases in which sanctions are imposed. Rather, sanctions succeed by convincing potential targets that the coercer is resolute. The model reveals that the threat of sanctions can be as potent a policy tool as the imposition of sanctions. If the target is compliant and if the target believes that the coercer is likely to be resolute, Outcome 2 shows that the threat of imposing punishment can effectively compel targets to comply. Empirical studies that examine only cases in which sanctions were imposed omit a class of cases that represent successful sanctions, though the sanctions were threatened but not imposed. Examining cases of only imposed sanctions generates a selection bias in empirical research. The literature on sanctions has relied too heavily on case studies (Pape 1997, 1998) and large data set analysis of sanctions (Hufbauer, Schott, and Elliott 1990), leaving us with an incomplete and inaccurate assessment of sanction success.

Second, successful sanctions may also be measured as an improvement over the status quo, even if a state's most preferred outcome is not realized. Many scholars consider sanctions a failure if the coercer imposes sanctions and the target does not capitulate. But a resolute coercer prefers the outcome (threat, no compliance, sanctions, no capitulation) to the status quo. Even though the coercer does not achieve its most preferred outcome, it does achieve an outcome it prefers to the status quo. The resolute coercer is certainly no worse off imposing sanctions that are ignored than it is continuing under the status quo.

Third, sanctions are often unsuccessful. In the pure strategy equilibria, the compliant target always complies after the coercer threatens sanctions. Capitulation by the target after the coercer imposes sanctions is an equilibrium only in mixed strategies: the outcome occurs only when the pure-strategy equilibria do not exist, which explains why sanctions often fail to achieve capitulation. However, this result does not mean that sanctions should never be imposed if a target does not concede after sanctions are threatened. If a coercer never imposes sanctions, then the target—and other potential targets—will always ignore sanction threats. Sanctions must be imposed sometimes, even in cases where they are likely to fail, in order to lead targets to believe that threatened sanctions are not always a bluff. The success of sanctions should be judged not by the cases where sanctions are imposed and fail but by the cases where threatened sanctions change the behavior of targets.

Fourth, Outcome 1 explains why states coerce some targets but not others. Policy makers are often criticized for their inconsistency in applying sanctions. A consistent foreign policy, some people argue, must be rooted in consistently punishing different states for similar behavior. However, the key differences between Outcome 1, in which sanctions are not threatened, and the other outcomes, in which sanctions are threatened or imposed, are the coercer's beliefs about the target's type and the cost to the coercer of backing down rather than imposing sanctions if the target ignores the coercer's threat. If we expect a coercer's beliefs about the target's resilience to vary across targets, then we should expect inconsistencies in the application of sanctions.

Fifth, differences in the sanctioning behavior of a coercer may be rooted in its preferences, not its capabilities. Prevailing theories of economic sanctions discuss states, particularly coercers, as weak or strong based on their capability for punishing targets. In the model we present, coercers have different preferences that may or may not be linked to their capabilities. A state that does not impose sanctions against another may not have limited capacity to sanction; instead, it may prefer not to sanction due to the costs of lost trade revenues or to domestic political concerns. To infer a state's capabilities from its behavior is erroneous.

Understanding the structure of a player's preferences is critical for studies of issue linkage as well as economic sanctions. Any case of issue linkage involves states bargaining over two or more issues. The outcome of a linkage game depends on whether one or both disputants have separable or nonseparable pref-

erences for the outcome of two issues. If both players' preferences are separable across all issues, then the outcome of any one issue will not affect the outcomes of the other issues. If one player has nonseparable preferences, then the outcome of any issue will depend on the outcomes of the other issues.

The game-theoretic model in this article will aid empirical studies of sanctions. The empirical literature on economic sanctions faces a series of selection biases that few scholars have examined (for exceptions, see Drezner 2001 and Eaton and Engers 1992). Cases in which sanctions are imposed are not randomly drawn from cases in which sanctions are threatened, and cases in which sanctions are threatened are not randomly drawn from cases in which sanctions were a potential policy tool during an interstate conflict. Our theory outlines how cases of threatened sanctions will differ from cases of nonsanctions, and how cases of imposed sanctions will differ from cases of sanctions that were threatened but not imposed.

The theory presented in this article generalizes existing theories of economic sanctions by incorporating the realistic expectation that disputants may be uncertain about each other's preferences or objectives. The model also generalizes existing payoff functions for actors in a dispute. We allow the target and coercer to have separable *or* nonseparable preferences for the outcome of the issues in a dispute. By allowing different types of preferences for the parties in a dispute and by incorporating incomplete information into a multistage game of sanctions, the theory is flexible enough to provide a unifying framework for studies of economic sanctions and issue linkage. The theory may also be extended to sanctions in other contexts, such as sanctions threatened by a party in a legislature against some of its members. Sanctions of all sorts involve a threat stage and follow-through stage in which players are often uncertain about each other's preferences, objectives, or capabilities.

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Dean Lacy is associate professor of political science, The Ohio State University, Columbus OH (dlacy+@osu.edu). Emerson M. S. Niou is professor of political science, Duke University, Durham NC (niou@duke.edu).