Coercion and Exchange in Economic Statecraft

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I. Introduction

Since Albert Hirschman pioneered the theoretical study of economic statecraft (Hirschman, 1945), scholars have produced numerous, detailed empirical studies on its practice. With only a few exceptions, however, the literature has been weak on systematic, comprehensive, and formal analysis, and most research endeavors are either case studies using variables deemed appropriate or cross-national studies focusing on a particular category of economic statecraft (e.g., foreign aid or trade sanctions). Few of them have provided a formal, logical analysis that has broad theoretical implications. Based on these concerns, this paper attempts to (1) provide a schematic summary of current theories of economic statecraft, (2) offer two simple models that clarify the logical relationships among these theories, and (3) conduct a statistical test of the theoretical arguments of the two models.

II. A Schematic Summary of the Literature

In this paper economic statecraft is defined as the practice by national governments or international organizations of using economic leverage for foreign policy objectives. The term "economic statecraft" is used here to include two major, and often mutually independent, branches of the literature: the use of foreign aid and the use of trade sanctions as economic leverage. I will demonstrate later that the exclusive focus of current theoretical studies on either foreign aid or trade sanctions is unnecessary, since they share some logical arguments in theory-building.

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The term economic statecraft will be used to include terms such as economic sanctions, trade sanctions, positive sanctions, negative sanctions, aid suspension, and economic leverage.

Table 1 provides a schematic presentation of the important variables commonly used in the economic statecraft literature. These variables are organized according to whether they are related to the sender country (the country that initiates economic statecraft), the target country (the country that receives it), third parties, and the outcomes of economic statecraft.

Sender Country Variables

Variables related to the sender country include its size, the goals and instruments of its economic statecraft, and implementation problems.

Table 1. Variables of Economic Statecraft

A. Sender Country Variables:
- Size - absolute size, vulnerability, sensitivity
- Goals - target behavior, political and military factors, domestic political demands, international values
- Instruments - level, scope, duration, accompanying measures, costs and cost distribution
- Implementation - distortion, monitoring and punishing violations, miscommunication

B. Target Country Variables:
- Size - same as in the sender country
- Goals - same as in the sender country
- Costs - amount, oversetimation of costs by the sender
- Reactions - positive, negative, and ngotiation

C. Third party Variables:
- Size, goals, instruments, and implementation; and their complementarity to the sender country's.
- Size, goals, costs/benefits for supporting the target country.
- Internatioanl organizations - costs and benefits as compared to sender country

D. Outcome Variables:
- Degrees and conditions of success/failure.

The size of the sender country is important because political influence is derived from asymmetrical economic interdependence (Knorr, 1977; p. 102; Keohance & Nye, 1977). If the target country is smaller and more dependent on an economic relationship than the sender country, the target country is subject to the sender's economic statecraft. The variable of size has a number of dimensions. It may refer to the absolute size of an economy, measured in gross national product. It may also refer to a country's invulnerability or insensitivity to the disruption of foreign economic relations, as measured by trade/GNP, aid/GNP, trade concentration, product concentration, terms of trade, and terms of aid/loan (Hufbauer et al., 1990, p. 64; Parrlberg, 1978; Wallensteen, 1968).

The goals of economic statecraft vary across empirical cases, but categories (Barber, 1979; Bayard et al., 1983; Brady, 1987, p. 298; Knorr, 1975, pp. 135-38; Leyton-Brown, 1987, p.303; Hufbauer et. al, p. 11; Lindsay, 1986): (1) goals that aim to change the target country's behavior in particular incidents: for example, human rights violations, holding foreign hostages, expropriating foreign assets, and military aggression against other nations; (2) goals that aim to change the target country's leadership, political system, or military capability: for example, Western nations' sanctions against Libya and Iraq, military dictatorships, and communist regimes; (3) goals that serve domestic political demands: for example, the tendency of economic sanctions to focus on import controls rather than export controls (Kaempfer & Lowenberg, 1970, pp. 137-38), U.S. economic support for Israel; and (4) goals that are related to international ideology, norms, and values: for example, anti-communist expansion, anti-capitalist infiltration, anti-terrorism, cohesion of alliances, and the maintenance of the French Empire (Kindleberger, 1970, pp. 137-38). Other goal-related variables include the number of the above goals involved, the political salience of the goals, symbolic versus instrumental goals, punishment versus coercion goals, and whether consensus exists among major decision makers about these goals. (Ayubi et al., 1982, p.83; Galtung, 1967; Nossal, 1989; Richardson, 1976; Schreiber, 1973; Wallensteen, pp. 252-53).

The instruments of economic statecraft vary even more than the goals due to the idiosyncracy of each sanction episode discussed. Commonly mentioned instruments include terminating trade, canceling or granting trade preferences, suspending or providing aid and other types of assistance, defaulting on loans, and freezing foreign assets. Several aspects of this variable have been suggested. The first aspect is the level, scope, and duration of the instruments used. Commensurate with its goals and economic capabilities, the sender country needs to decide on the appropriate level of each instrument (e.g., how much loan should be terminated), the scope or the number of instruments to be used, and the

duration of employing these instruments. (Ayubi et al, pp. 4-5; Hufbauer et al., pp. 36-43).

The second aspect is the measures accompanying economic statecraft. These may include both political and military measures, such as diplomatic protests, the recall of diplomats, holding foreign hostages, economic blockades, or even direct military attacks. More often than not, the adoption of economic statecraft reflects a paucity of alternative measures. While diplomatic persuasion may signal the weakness of the sender country, military measures may prove to be too costly in both political and economic terms (Hufbauer, pp. 13, 43; Miller, 1980; Morgan & Schwebach, 1992).

The third aspect is the cost of economic statecraft and the cost distribution among domestic groups (Hufbauer et al., pp. 47-48). The exercise of economic statecraft necessarily involves direct economic sacrifices, whether in the form of foreign aid or trade sanctions. The sender country also incurs indirect costs by gaining a reputation for being a less reliable trading partner or loan supplier (Lindsay, p. 169). High costs of economic statecraft may reflect the resolve of the sender country, but in the long run may also undermine domestic support. In most empirical cases, however, economic statecraft incurs relatively small costs to the sender country (Wallensteen, p. 254).

The cost distribution among domestic groups adds another political dimension to the complexity of economic statecraft (Bingham & Johnson, 1979). The decision about which instruments of economic statecraft to use determines which domestic groups assume the burden: importers (import controls), exporters (export controls), certain types of industries (high-tech export controls, grain embargo), or general taxpayers (foreign aid).

The last variable of economic statecraft related to the sender country is implementation. A case of economic statecraft may have well-defined, realistic goals but encounter serious distortions in the implementation process. Politicians, bureaucrats, and interest groups may sabotage the economic statecraft they dislike through delay, issue linkages, claiming exceptions, and disobedience. The sender country may lack effective mechanisms to detect and punish these violations. Furthermore, even without these intentioanl obstacles, unintentional miscommunication may occur during the implementation of economic statecraft that causes either overreaction by the target country (e.g., wartime psychology) or underestimation (total ignorance) of the sender's political goals (Ayubi et al., p. 3; Barber, p. 377; Bayand et al., pp. 79-86; Kaempfer & Lowenberg, p. 472; Knorr, 1975; Renwick, 1981, p. 78; Von Amerongen, 1980).

Target Country Variables

The target country's size, goals, and reactions are the major variables discussed in the literature. Size is important because it increases the target country's ability to resist the sender country's economic statecraft. Therefore, the discussion of the sender country's size in the previous section also applies to the target country, including its absolute size, dependence on the sender country's imports, exports, and financial assistance.

The target country's political goals are simpler and more transparent than the sender country's. Whether they are human rights violations, voting in the United Nations, coup d'etat, or invasion of its neighbors, the target country has specific goals to accomplish or that have been accomplished. What becomes uncertain is the trade-off between these political goals and the economic costs (or gains) resulting from the economic statecraft, as well as the negotiability of the political goals of the target and the sender. The target's political goals may be too sacred or too vital to the national leaders (e.g., the occupation of a disputed territory or the consolidation of the ruling regime) to trade for economic goods or seek compromises with the sender country's political goals (Knorr & Trager, 1977, p. 104).

The cost variable of the target country includes the forgone gains from trade, the termination of financial assistance, and the adjustment costs. High economic costs may force the target country's political leaders to rethink their political goals. But scholars have argued that while the sender country often underestimates the target's political resolve, it also frequently overestimates the target country's costs (Kaempfer & Lowenberg, p. 472; Wallensteen, p. 256). In particular, the target country's costs are often formulated in relative terms (e.g., they suffer more than we do, or we have nothing to lose but they do) to justify the practice of economic statecraft.

Finally, the target country's reactions also have an important impact on the practice of economic statecraft. The target country may respond positively and take actions according to the sender country's political requests. But the target country may also respond negatively and take actions to offset the impact of economic statecraft. The literature on economic statecraft has suggested that economic statecraft sometimes creates antidotes in the target country (such as the wartime psychology) and strengthens the target's regime or leaders. An often-cited example of this antidote effect is the U.S. sanctions against the Castro regime in Cuba (Ayubi, et al. ; Barber, p. 376; Hufbauer et al., p. 12; Kaempfer & Lowenberg, p. 792; Knorr & Trager, p. 108; Lindsay, p. 168; Porter, 1979; Schreiber, pp. 404-05; Von Amerongen, p. 165; Wallensteen, p. 257). The target country is then able to reallocate domes-

tic resources to cope with the impact of economic statecraft (Ayubi et al.; Knorr, p158). Along with domestic adjustment programs, the target country can look for third-party assistance to counter-balance the sender's economic statecraft or "counter-coerce" the sender country (Knorr & Trager, p. 112).

The target country may choose to negotiate with the sender country and reach compromises between the sender's and the target's political goals. In the case of sanctions, the target country's bargaining power increases after the sanctions are imposed (Wagner, 1988). Some scholars have suggested that the choice of positive or negative responses depends on the target's economic and political vulnerability to economic statecraft (Hufbauer et al., p. 46; Porter, p. 582).

Third Party Variables

The third party to a dispute between the sender and target countries may be a country, a group of countries, or an international organization (e.g., the U.N., OECD, OPEC, or OAS). Third party variables are similar to those of the sender and target countries, depending on the third party's position in the dispute. If the third party is on the side of the sender country, then the sender's practice of economic statecraft is influenced not only by each third party's size, goals, available instruments, implementation problems but also by the complementarity between the sender's and the third party's variables. More often than not, even though the third party may agree with the sender country's overall objective of condemning the target's particular behavior, the two countries may debate bitterly about specific goals, types of instruments, cost sharing, and implementation procedures. The decades-long debate between the U.S. and its European allies on the goals and implementation of the Coordination Committee on Export Controls against communist countries illustrates the difficulty of collective sanction (Adler-Karlsson, 1968; Bingham & Johnson, 1979; Hufbauer et al, pp. 44-45; Mastanduno, 1988; Mayall, 1984; Miller, p. 124; Von Amerongen, p. 165). Therefore, sometimes the sender country needs to practice economic statecraft against the third party in order to strengthen its economic statecraft against the main target country (Martin, 1992).

If the third party is on the target country's side, it will evaluate the political and economic costs/benefits of assisting the target country (Ayubi et al., p. 3). The third party may gain future economic leverage due to the target's increasing dependence on the third party. But the target country can also play the sender country against the third party in order to maximize its economic gains from the sender and the third country. The fact that U.S. foreign aid tends to reward unfriendly countries instead of allies is anecdotal.

The third party can also play the role of an opportunist. When the sender country imposes sanctions on the target country, the third party may take over the sender's trade opportunities in the target country, as Japan often did in the past. Or, if the sender country reveals weakness in dealing with the target country's behavior, the third party may blackmail the target country in the future.

If the third party is an international organization, it will share the problems of the sender country, as discussed before, while suffering from more serious problems in defining the goals and implementing the instruments of economic statecraft (Doxey, 1980, p. 125). The international organization does, however, provide both a wider base of legitimacy for the sender country's action and greater pressure, both economically and symbolically, on the target country.

Outcome Variables

All of the variables related to the sender country, target country, and third party ultimately are used to explain the central question of economic statecraft: Does it work? Two answers have been suggested in the literature. The overwhelming majority of scholars argue that although economic statecraft may produce economic effects, it rarely meets anticipated foreign policy goals. Occasionally, economic statecraft may even make situations worse (Ayubi et al., p.3; Bingham & Johnson, p. 912; Blessing, 1981; Doxey, p. 125; Knorr & Trager, p. 165; Mayall, p. 631; Morgan & Schwebach, p. 20; Renwick, p. 92; Wallensteen, p. 250; Wittkopt, 1973). Von Amerongen appropriately summarizes this type of evaluation: economic statecraft is like "a tiger without teeth or claws, a tiger unable to do more than growl a little." (Von Amerongen, p. 160).

Other scholars, including some mentioned above, are more sympathetic to the use of economic statecraft, ranging from strong support (Huntington, 1978) to conditional support of its use. The conditional supporters then further analyze the conditions under which economic statecraft can serve political purposes and to what extent. Among the variables discussed previously in this paper, these scholars suggest that the higher the cost to the sender country, the stronger the instruments used, the more variety of accompanying measures employed, the more cooperation from third parties there is, the weaker the target country's economy is, and the more modest the sender country's goals are, the more likely economic statecraft is to achieve its political goals (Armstrong, 1981; Ayubi et al., pp. 79-83; Barber, p. 374; Hufbauer et al., pp. 94-105; Knorr & Trager, p. 109; Leyton-Brown, p. 309; Lindsay, pp. 159-60; Nossal, p. 322; Richardson & Kegley, 1980; Vam Ham, 1992; Von Amerangen, p. 167).

Several conclusions can be draw from the above discussions of

economic statecraft variables. First, the number of variables affecting economic statecraft is quite large. Second, as a result of this, the formalization of economic statecraft theories is rare and difficult. Students of economic statecraft remain puzzled about the logical relationships among all these variables. Third, empirical tests of these theories, both statistical and those employing case study methods, also become increasingly unmanageable.

In the next section I will present two simple models, trying to simplify and integrate these theories in a consistent manner, though some variables will not be considered or elaborated in the models. Then I will conduct statistical tests to evaluate the theoretical implications of the two models.

III. Exchange and Coercion Models of Economic Statecraft

Few have followed up Hirschman's simple trade model which forms the foundation of modern economic statecraft theory (Porter; Tollison & Willett, 1979). Others have aimed to formalize different dimensions of economic statecraft theory with sophisticated economic, bargaining, or game models (Kaempfer & Lowenberg, 1992; Morgan & Schwebach; Stein, 1980; Tsebelis, 1990; Martin).

In this paper two simple models, the exchange model and the coercion model, are presented as alternatives to these sophisticated formal models. The exchange model is built on Hirschman's trade model, while the coercion model is an adaptation of Schelling's tipping model (Schelling, 1978).

The Exchange Model

The necessity to review and modify Hirschman's model arises from Wagner's unique and convincing criticisms of current economic statecraft theories that originate from Hirschman's theory (Wagner, 1988). What is Hirschman's theory? Figure 1a presents Hirschman's original model with minor modifications.

In this Edgeworth box the sender country (S) and the target country (T) trade with each other for the economic goods M1 and M2. S1 and T1 are their no-gain-from-trade indifference curves.[1] Between S1 and T1 both countries may benefit from trade under certain terms of trade. But only on the contract curve C1C2 will both countries find no alternative terms of trade that will improve one's satisfaction level from trade without hurting the other's. C* is the final trade terms that reflect both countries' market power in the trade. Through trade the sender country improves its consumption level from C1 to C* and enjoys a higher satisfaction level (S2), while the target country increases its consumption

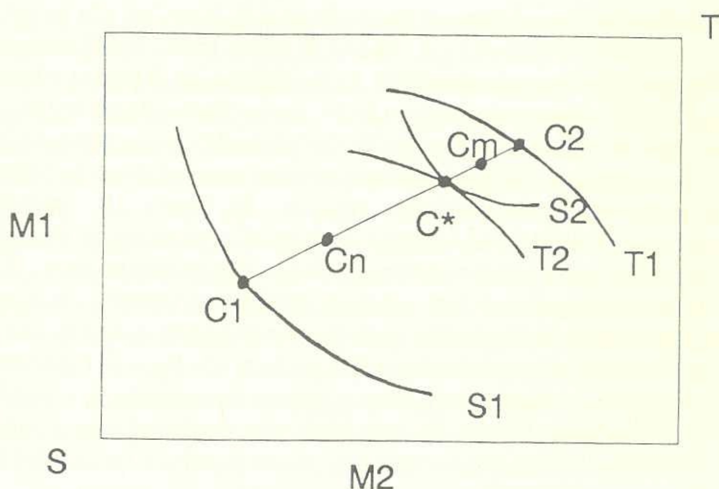

Fig. 1a. Hirschman's Trade Theory.

from C2 to C* with higher satisfaction (T2).

So far so good. But as Wagner argues, hirschman's theory then proceeds in the wrong direction and stops. Its direction is wrong because it begins to focus on the issue of trade dependence; it stops at the theory of trade between economic goods and fails to take into account the trade between economic goods and political goods, which is what an economic statecraft theory should be about. Wagner suggests that Hirschman and many theorists of interdependence have mistakenly equated market power with political power.[2] When the final terms of trade are decided between the two countries, all economic bargaining advantages have been exhausted in the process, as reflected by the terms of trade. If country S has monopoly advantages, it can push the terms of trade as close to C2 as possible until country T decides that it makes no sense to trade with S anymore. At C*, even though S acquires a much larger share of trade, its subjective gain from trade is equal to T's. Neither country has any economic bargaining advantage left at C*. Without the bargaining advantage, how does country S compel country T to make political concessions?

Wagner argues that the reason why country T is willing to make political concessions is because there must exist "unexploited profit" from trade for country S, which S can use to purchase political concessions from T. That is, the sender country has to sacrifice current consumption of economic gains from trade in exchange for political concessions from the target country. Any point (Cn) between C1 and C* indicates such unexploited profits. Instead of consuming at C*, the sender country now consumes at Cn, which is at a lower satisfaction level, while the target

country is allowed to consume more from C2 level to Cn level. For instance, the sender country (e.g., the U.S.) may grant tariff concessions or subsidies to the target country's (e.g., China or Russia) exports in exchange for the latter's support in U.N. Security Council votes.

Although Wagner did not offer a formal model, his arguments can be modeled by a similar Edgeworth box where unexploited profits from trade and political concession are traded. In figure 1b, unexploited profits can be generalized to include such profits existing in the trade of all other tradable goods and services between the two countries. Assuming that trade linkages are not perfect, while the sender country may reserve unexploited profits in the trade between goods A and B, the target country may reserve unexploited profits in the trade between goods C and D. Similarly, both countries can make political concessions on different issues. In this sense, figure 1b is a MxN-dimensional space where M number of political concessions are just more goods to be traded with N number of economic goods.

S1' and T1' are country S's and country T's no-gain-from-economic-statecraft curves. Both countries can exchange their unexploited profits and political concessions, and reach a certain point (C**) on the new contract curve that exhausts all their bargaining power, as happened in the trade between economic goods.

Because of its multi-dimensional nature, Figure 1b points to the theoretical possibility of "counter coercion," (Knorr & Trager, p. 112) something which is rarely discussed by current theories or by Wagner. This would occur if large countries were to make political concessions to small countries in order to increase economic gains. For instance, during the 1970s and 1980s the governments of South Korea and Taiwan sponsored annual purchases of American cotton and grain at above-market

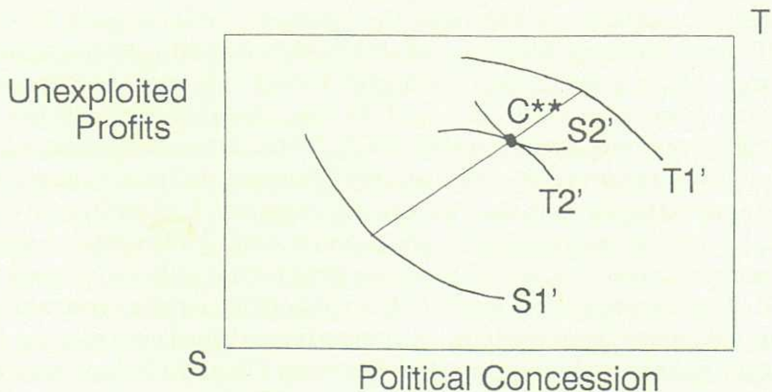

Fig. 1b. The Exchange Model.

prices in order to win political support for their security needs from the U.S. farm states.

The trade between economic and political goods does not always materialize. Market failure may occur due to the non-existence of Pareto-optimal agreements, that is, T1' is located below S1'. For example, political extremists, ultra-nationalists, and religious zealots may refuse to discuss the possibility of any trade between material satisfaction and ideological integrity. Or, the political concession involved may be a lump-sum good that falls outside the negotiable agreement set, e.g., replacing a strongman in an authoritarian country. Implementation problems in the sender country mentioned before may also cause market failure.

Figure 1b suggests that countries with strong economic bases (financial power and monopoly control over imports and exports) may postpone their current consumption of gains from trade in exchange for current or future consumption of political concessions from their trading partners. Sender countries are willing to do this because the marginal utility of consuming gains from trade may decline very fast or may be close to zero. The stronger (in relative terms) the sender country's economic base is, the larger the room for postponing consumption of gains from trade.

Postponing the consumption of unexploited profits from trade has a risk. If the target country's economy benefits from the favorable terms of trade and improves its terms of trade in the long run, the sender country's unexploited profits from trade will grow smaller and smaller (C** moving toward Cn). That is, if the sender country does not immediately utilize its unexploited profits for political purposes, it will probably never be able to use them again.[3]

Figure 1b also provides a powerful explanation for why so many cases of economic statecraft fail even when the powerful sender country has all the economic advantages. It is very likely that all the economic advantages are already reflected by the current terms of trade between the two countries (at C* in figure 1a), and the stronger nation may have consumed the gains from trade without leaving anything to be exchanged for political goods. After all, most cases of economic statecraft begin long after bilateral trade relationships have been established. The sender country may begin to reserve profits from trade by granting preferential trade treatments in order to extract political concessions from the target country. But this is a voluntary exchange of economic and political goods, not coercion or compliance as discussed in existing theories of economic statecraft.

The above discussions remain valid when the unexploited profits from trade are replaced by foreign financial assistance. Freezing foreign assets, one popular instrument of trade sanctions, can also be regarded as newly-acquired unexploited profits. Current theories of economic statecraft tend to be divided into two exclusive branches: one focuses on

foreign assistance, the other on trade sanctions. The exchange model demonstrates that both branches of economic statecraft have the same logical structure.

Lastly, the exchange model generates an interesting implication: if a country changes its preference over the trade between economic and politicial goods, both the sender and target countries may improve their trade welfare. For instance, environmental and human rights concerns may suddenly become a national issue that changes the leadership's or the majority political coalition's preference. Continued political reforms in South Africa after economic sanctions are lifted may reflect such a change of preference as well. Another example of preference change is the fact that the very use of economic sanctions or the public threat of them often manufactures its own antidote in the target country by arousing nationalist sentiment (Knorr & Trager, p. 108).

Figure 1c describes the phenomenon of preference change. The change in the target country's preference curve from S1 to S2 encourages both countries to move from the previous Pareto-optimal point 01 to the new Pareto-optimal point 02 through further exchange of economic and political goods. By introducing the dimension of preference change, figure 1c implies the possibility of achieving political goals through tacit, incremental means. The literature on interdependence has discussed how the expansion of trade relations among nations affects domestic coalitions and how increased communication among nations changes nations' perceptions of others (Keobane & Nye, 1977; Jervis, 1976). Marxist theories of dependency also make similar comments, although with a different emphasis on class exploitation (Caporaso, 1981; Dos

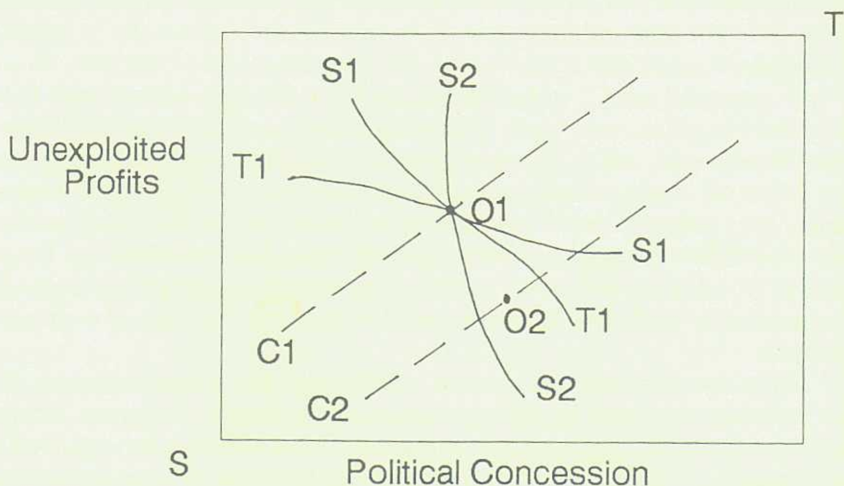

Fig. 1c. Preference Change.

Sandos, 1970; Evans, 1979). For instance, Galtung suggests that communication imperialism has replaced traditional colonialism and economic imperialism as a domination instrument used by industrial nations to control developing countries (Galtang, 1971).

The Coercion Model

Although the above exchange models illuminate a critical part of economic statecraft theories, they do not address another, perhaps more important, part of the theories, namely, coercion. In fact, one can argue that Hirschman's theory of economic statecraft is mainly about coercion, not exchange.[4] The major difference between the exchange and coercion models is that in the latter, the sender country can extract political concessions from the target country without granting unexploited profits in return. That is, in the coercion model the sender country gets a free lunch. This difference is similar to, but not exactly the same as, the distinction between "coercive power" and "negative sanction" on the one hand and "non-coercive power" and "positive sanction" on the other offered by Knorr and Baldwin.[5]

The target country can make political concessions before or after economic sanction. If it yields before the sanction, then the target country has a net political loss and the sender country has a net political gain. If the target country does not make adjustment afterwards in its preference or economic relátions, the sender country can extract an infinite amount of political concessions from the target country without paying a penny. If the target country yields after economic sanction, then both the target and sender countries recover their gains from trade with no transfer of economic gains across the border. The target country, however, assumes a net loss of political gain, while the sender country has a net political gain.

The coercion model (figure 2) is presented as follows. In figure 2 the horizontal axis represents the amount of economic sanction the sender country imposes on the target country, assuming no unexploited profits from trade exist. The vertical axis is the political concessions from the target country. The target country's yield curves (T1 and T2) reflect a log-linear relationship between the amount of economic sanction and the amount of political concession it is willing to make. Given a fixed amount of economic sanction, the target country is willing to accept any deal to the right of T1 to T2 and refuses anything to the left of the yield curves. The movement from T1 to T2 represents the target country's ability to make adjustments in economic structures and trading partners or the ability to rally domestic political support to endure economic hardship. T1 and T2 may also represent countries with different sizes.

To the target country's yield curves, I also add the sender country's

demand curves, S1 and S2. Since economic sanction also generates costs to the sender country, the sender country expects higher political concessions for higher-cost sanctions. The sender country would be happy to accept any deal that is to the left of the demand curve, but nothing to its right. The movement from S1 to S2 means that the sender country changes its preference in favor of political gains. A shaded area of agreements exists between A1 and A2, representing all the agreements acceptable to both the sender and target countries. The sender country cannot extract a political concession higher than A2, regardless of the amount of economic sanction.

Point Q1 is the minimum amount of economic sanction required to extract a visible level of political concession. And point Q2 is the sender country's sanction capability. Q1 and Q2 reflect not only tangible variables such as trade dependence and trade concentration but also intangible variables such as political determination. The sender country can move Q2 toward the right by asking third countries to join he sanction.

It is worth repeating that in this model no exchange between political and economic goods occurs across the border. Since sanction causes economic loss in both the sender and target countries, they need to make a trade-off between the two goods within the border. This trade-off within the border has different behavioral consequences for both countries from those of the exchange model. If the target country does not yield before or after economic sanction, then the sender country suffers either reputation loss for bluffing or incurs both economic and political losses (with some political gains from satisfying domestic political constituents). The target country faces political pressure but loses no politi-

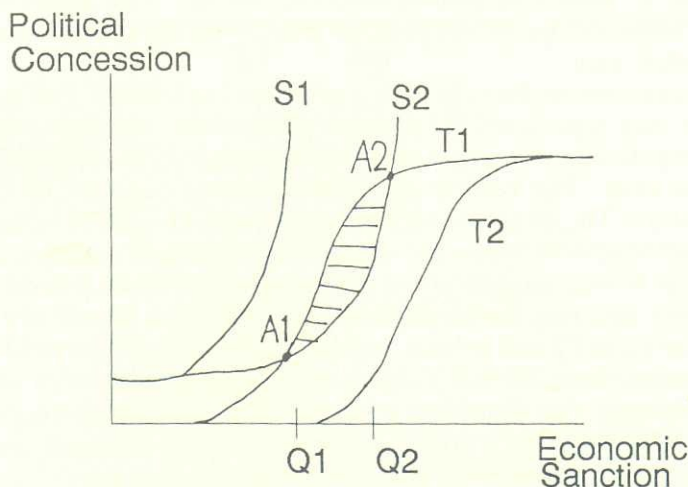

Fig. 2. The Coercion Model.

cal gain before the sanction is carried out. It may even enhance its reputation for standing tough against foreign bluffing. After the sanction, depending on its domestic political configuration, the target country can make political concessions to recover the subjective gains from pre-sanction trade relations.

If the sanction does not produce immediate political results, the target country becomes less susceptible to the sender's influence because (1) the sender's economic leverage is reduced by sanction, (2) the target country may, at a higher cost, develop alternative trade relations with other countries, (3) the target country may beef up its political propaganda, and (4) the political determination of the sender country may fade away in the long run. These causes are depicted in figure 2 by the movement of the yield curves from T1 to T2. The sender country has few choices to improve its political influence. They include maintaining its political resolution, finding alternative trading partners (at a higher cost), and deterring other countries from becoming the target's alternative trading partners (which involves additional political costs). The sender country may further ask other countries to impose sanction on the target, thus moving Q_s toward the right.

The coercion model also has other implications that are different from the exchange model. First, the log-linear relationship is consistent with the policy suggestion that if economic sanction is ever used, it should be used in large quantities, larger than Q (Ayubi et al., p. 83; Bayard et al., p. 84; Hufbauer et al., pp. 101-102). Small-scale sanctions not only fail to create noticeable political effects in the target country, they may even backfire if the target country perceives this as the sender country's weakness of will. In contrast, the phenomenon of backfire is not commonly assumed in the exchange model. Any amount of unexploited profits provided by the sender country can be exchanged for positive political gain from the target country without creating as serious a backfire phenomenon.

Second, the sender country may not be able to impose sufficient sanction to change the target's political behavior. Unless it is used for domestic consumption, economic sanction is not a good option when Q_s is smaller than Q. In this case the sender country would only add insult (political loss) to its own injury (economic loss). In contrast, neither country in the exchange model needs to worry about this possibility. furthermore, another implication of this analysis is that although smaller nations may still exercise economic statecraft in an exchange model, they are excluded from using it in a coercion model. (Wallensteen, p. 259).

Finally, the target country's responses to exchange and coercion relations may be different. Since in the exchange model both trading partners reach a Pareto-optimal outcome, both sides would welcome similar transactions in the future. In the coercion model, however, the

sender country may gain at the expense of the target country (if the threat of sanction works) or cause the target country economic hardship. The target country, therefore, will try to prevent the coercion relationship from happening again. Furthermore, foreign aid tends to have more effect on the ruling elites in the target country while trade sanctions tend to have a wider but diffused impact on the general public. The target country will, therefore, respond to exchange more favorably than to coercion (Lindsay, p. 170; Moon, 1985; Stein, p. 80).

IV. Empirical Test

Is exchange statecraft more effective than coercion statecraft? As discussed before, most scholars have argued that economic statecraft is either ineffective or counter-productive in inducing political change in the target country. Some scholars, however, are more sympathetic to the use of economic statecraft. They suggest that it may work if policy goals are not too ambitious and if it is used along with other foreign policy instruments. These two opposite views about the effectiveness of economic statecraft are also applicable to the use of exchange and coercion statecraft. Furthermore, the exchange model implies that due to the possible existence of Pareto outcomes in an exchange relationship, the target country may be receptive to exchange statecraft but not to coercion statecraft. The following statistical test will provide an answer to these hypotheses.

The data set used here is the one collected by Hufbauer et al., which includes 116 episodes of economic sanctions from 1914 to 1989 (Haufbauer et al., 1990). Although scholars have disagreed on Hufbauer's data collection methodology, it is so far the best and most complete data set available on economic sanctions.

In order to test the relative effectiveness of exchange and coercion statecraft, I first calculate the amount of exchange statecraft and coercion statecraft from Hufbauer et al.'s case studies. The amount of exchange statecraft (EX) in each case includes, among others, foreign (military, financial, and food) assistance, discount loans, loan guarantees, and the cancellation of most-favored-nation status. All of these economic relationships contain unexploited profits and can be used in exchange for political concessions. This amount is then divided by the target country's GNP in order to calculate the relative importance of exchange statecraft in the economy. This new variable is called EGNP. $EGNP = EX/GNP$, $0 \leq EGNP \leq 1$.

The amount of coercion statecraft is the difference between the final sanction cost to the target country (TTL) and the amount of exchange statecraft. In the data set this amount includes, among other things, the welfare losses resulting from the reduction in (non-concessional) trade,

from the decline in gold and foreign exchange reserves, and from the delay in the shipment of valuable goods and services. Since some target countries were able to offset the sanctioning cost by adopting counter measures (e.g., freezing the sender's assets) or receiving third-party financial or trade assistance, these offsetting values are added to the final cost, which, in the original data set, does not include these offsetting values. CGNP is the new variable that reflects the relative importance of coercion statecraft in the target country's GNP. CGNP = (TTL - EX)/ GNP, $0 \leq$ CGNP ≤ 1.

The variable ETTL is the portion of exchange statecraft in total sanctioning costs, i.e., ETTL = EX/TTL. The purpose of introducing this new variable is to show the relative impact of the two kinds of statecraft on success levels. $0 \leq$ ETTL ≤ 1. If ETTL is less than 0.5, exchange statecraft is less important than coercion statecraft in a sanction episode. If ETTL is 0, only coercion statecraft is used.

The dependent variable is the success level of economic statecraft. Hufbauer et al. develop a 16-point scale to take into account both the extent of the target country's behavioral change and the contribution of economic statecraft toward the change. For instance, if the target country changes its behavior exactly according to the sender country's demands, the behavioral change indicator is assigned the value of 4; if not, 1 to 3 are assigned to reflect no change, some change, or significant change in the target country's behavior. If the behavioral change is totally attributable to the economic sanction, the contribution indicator is given the value of 4. If the change is due to other reasons, usually as a result of other accompanying foreign policy measures such as military action, values 1 to 3 are given. Hufbauer et al. then multiply the behavioral change indicator and the contribution indicator to constitute the success level variable, which I call SUCCESS. $1 \leq$ SUCCESS ≤ 16.

Finally, I use SUCCESS to construct a dummy variable SUCDUM in order to see whether economic statecraft works only when policy goals are modest or when it is used along with other foreign policy instruments. SUCDUM is coded 0 when the SUCCESS score is larger than 8, and coded 1 otherwise.

The statistical results are reported in Table 2. While coercion

Table 2. Predicting Minor Success

	CONSTANT	EGNP	CGNP	ETTL	SUCDUM
$R^2 = .76$**	11.90**	-.34*	-.03	1.52**	-8.65**
Case # = 111					

Source: Calculated from Hufbauer et al. (1990).
Note: * = F < .05; ** = F < .01.

statecraft has no significant impact on the success level, exchange statecraft seems to work in contradictory ways on the success level. The greater the amount of exchange statecraft in the target country's GNP, the more counter-productive it is. Most scholars, therefore, are correct in arguing that economic statecraft, whether it consists of coercion or exchange, is either ineffective or counter-productive. This conclusion holds even when the policy goals are modest and when other foreign policy instruments are employed simultaneously. However, the variable ETTL provides a twist to this conclusion. The proportion of exchange statecraft in the total sanction cost is positively related to its level of success, when the policy goals are modest or when it is used along with other foreign policy instruments.

One possible explanation for these two seemingly contradictory findings about exchange statecraft is that the two variables, EGNP and ETTL, represent different political forces. The variable ETTL might reflect prior friendly relations between the target country's ruling elite and the sender country. In addition to regular trade relations, the sender country might provide extra sweets (e.g., aid, discount loans) to the target country in expectation of future political concessions from it. It is usually the ruling elite in the target country that benefits first from these exchange relations. This explanation is consistent with Hufbauer et al.'s statistical finding that prior relations between the sender and target countries have a positive impact on the success level of economic sanctions (Hufauer et al., 1985).

But when exchange statecraft disrupts the target country's economy (EGNP), it might arouse nationalist reaction throughout the nation and become counter-productive. Therefore, while the elite may favor political concession, the people may oppose it.

Finally, it is found that exchange statecraft only works when the policy goals are modest or when it is used with other foreign policy instruments. When the variable SUCDUM is removed from the equation, neither EGNP nor ETTL has a significant impact on the success level.

V. Conclusion

This paper began with a schematic survey of the theoretical arguments of economic statecraft. Building on Wagner's criticism of the current literature, it developed two mutually exclusive models, the exchange and coercion models, to simplify and integrate these theoretical arguments. The two models imply that the target country is more receptive to exchange than to coercion statecraft. A statistical test is conducted to compare the effectiveness of exchange statecraft and coercion statecraft.

The statistical result demonstrated that while the sender country's

coercion statecraft has no significant impact on the behavioral change of the target country, exchange statecraft is a mixed blessing for the sender country. It might be counter-productive when it causes disruption in the target country's economy, but it might be effective when it is directed toward a friendly country. This effectiveness, however, is contingent upon the condition that the policy goal is modest or the exchange statecraft is used along with other foreign policy instruments.

Notes

1. Not drawn here are the two countries' production possibilities frontiers (or budget constraints), which are tangent to S1 and T2.
2. Hirschman borrows from the mercantilist argument that the "increase of wealth through foreign trade leads to an increase of power relative to that of other countries" (1980, 5). This is misleading because it does not necessarily imply an increase of (effective) economic leverages. He also discusses strategies of economic statecraft in terms of unexploited profits, for instance, to drive prices of the target country's export products above world prices and to grant export advantages (1980 20, 35, 38). But these strategies are not well integrated into his general theory, which is based on trade concentration.
3. This argument also applies to foreign aid. As Kindleberger argues, "aid developed from a privilege to a right, and its provision from an act of grace to a duty" (1979, 147).
4. Hirschman occasionally mentioned some elements of exchange (1945, 1980: 35, 38).
5. David A. Baldwin, "The Power of Positive Sanctions," *World Politics*, 24 (1971), 27-36; David A. Baldwin, *Economic Statecraft*, (Princeton: Princeton University Press, 1985), 41-42; Knorr (fn. 4), 4-8. For instance, Baldwin (1985, 41-42) divides techniques of economic statecraft into negative and positive sanctions. While all of his positive sanctions fit into my exchange model category, only half of his negative sanctions can be categorized as coercion.

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