Countervailing Conflict Interventions as a (Potentially Preventable) Prisoner's Dilemma Outcome.

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Abstract

Scholars and policymakers have devoted much attention to issues of third party intervention in conflict. The present paper considers a conflict that draws two countervailing outside interveners. As in the realist perspective, the outside parties are drawn to intervene through some economic or geostrategic interest that would be promoted through the victory of an ally. Using a simple game theoretic model, I find conditions under which outside interveners themselves fall prey to a Prisoner's Dilemma outcome and become worse off through their own intervention. This result brings into further question the desirability of escalatory conflict intervention. The paper also studies conditions required for the United Nations, or some such supra-national institution, to prevent a Prisoner's Dilemma outcome and successfully deter escalatory bilateral intervention. The findings show that the United Nations can alter the game equilibrium, and deter escalatory intervention, by imposing sufficient costs on intervening parties.

1. Introduction

Biased intervention is often an important factor in the amplification of civil and international conflict. In biased intervention, outside parties typically attempt to improve the probability of success for an ally through military aid, (arms) subsidies, and direct military intervention. Many studies, such as those by Morgenthau (1967), Bull (1984), and Feste (1992), conclude that parties choose to intervene when national interests are at stake. Regan (1996, 1998) describes this view as the "paradigm of realism" and identifies it as the dominant

philosophy in international politics. Complementary to realism is the idealist view that ethical issues and domestic politics play a crucial role in third-party decisions to intervene, a perspective supported by Blechman (1995), Carment and James (1995), and Dowty and Loescher (1996). Regan (1998) discusses the United States intervention in Bosnia as an example of domestic politics swaying a country's decision to intervene. He asserts that public outcry in the United States over failure to take action in Bosnia influenced the Clinton administration's policy. Similar examples exist in which an outside party does not intervene due to the high political cost of doing so. A strength of the realist perspective, taken in union with complementary views, is its recognition that national interest can derive from many disparate sources. In a paper addressing the history and nature of third-party intervention, Morgenthau (1967, p. 430) states, "All nations will continue to be guided in their decisions to intervene […] by what they regard as their respective national interests."

Thus, it is clear that realism views the interests of the third party as self-defined and potentially broad. In other words, success in a territorial conflict on the part of an "ally" can benefit the third party in a number of ways. Potential future benefits to the third party include enhanced access to natural resources and trade, improved national security, ethical fulfillment, and geo-strategic advantage (Moseley, 2006). A given conflict may draw two or more countervailing interveners. In some cases, such a conflict is termed a "proxy war." During the 20th and early 21st centuries, proxy wars have been observed in Spain, Afghanistan, Angola, Korea, Vietnam, the Middle East, and Latin America. In cases of bilateral, escalatory intervention, outside parties that seek to decrease the cost of allied arming may greatly intensify a given conflict (Chang, Potter, and Sanders 2007). As the benefit of a conflict is essentially fixed or decreasing in conflict, the intensification of fighting by an intervening party is undesirable from human and welfare perspectives (Sanders 2012).

The present paper considers a conflict that draws two countervailing outside interveners. As in the realist perspective, the outside parties are drawn to intervene through

some economic or geostrategic interest that would be promoted through the victory of an ally. Using a simple game theoretic model, I seek to determine whether such outside parties might themselves fall prey to a Prisoner's Dilemma outcome and become worse off through their own intervention. This possibility has important policy implications. If intervention is rational in a strategic, marginal sense but unprofitable overall, then it may be feasible for a supra-national regulatory body (e.g., the United Nations) to simultaneously decrease escalatory conflict intervention and improve global welfare (e.g., by imposing the appropriate degree of targeted sanctions upon escalatory interveners).

Political realists believe that a third party intervenes in a conflict in pursuit of its own national interests. On the other hand, idealists believe that outside intervention is motivated by humanitarian concerns. Several research findings show that conflict intervention tends to increase, rather than decrease, the duration of a conflict. Regan (1998) identifies realist interests as the leading factor in motivating conflict intervention. Using the Correlates of War data set, Regan (2002) tests several hypotheses related to the relationship between the timing and effectiveness of conflict intervention. He uses data on civil conflicts during the period 1944 through 1999 to test those hypotheses using a hazard model. He concludes that third party interventions tend to widen the expected duration of a conflict rather than curtail it. Apparently in contrast to the findings of Regan (2002), Balch-Lindsay, Enterline, and Joyce (2008) use the Correlates of War data set to find that, while unilateral conflict intervention shortens conflict duration, bilateral intervention tends to *increase* the duration of conflict. These results, based on an analysis of 213 civil conflicts occurring between 1816 and 1997, may not stand in contrast to the earlier results of Regan (2002). Regan's aggregate finding may have been influenced by the effect of conflicts featuring bilateral intervention.

Similarly, Siqueira (2003) investigates different scenarios under which military and or economic intervention might not help to achieve the desired goals targeted by policy makers. In order to select a right intervention strategy for reducing the conflict intensity, he suggests that the intervening third party

should also take into account the indirect impacts resulting from the possible strategic interaction among the rival fractions. Chang, Potter, and Sanders (2007) develop a simple sequential-move game to illustrate the endogeneity of third-party involvement in a conflict. Their model illustrates that an expected payoff maximizing party may intervene to generate peace or to disturb an existing peace depending on the feature of the conflict and the values maintained by the third party. Their conclusion is that third parties can be either "peace makers" or "peace breakers".

Little interest has been paid to the issue of third party welfare in conflict. Most prior work considers the welfare effects of third party intervention upon primary parties to conflict. However, it may be that outside intervention serves neither the primary parties in a conflict nor the interveners themselves. Intervening parties may often be locked in a Prisoner's Dilemma, whereby each is compelled by strategic forces to intervene. To study the potential for outside intervention as a Prisoner's Dilemma type outcome, I consider a simple simultaneous intervention game between two potential interveners and derive conditions under which intervention follows as a Prisoner's Dilemma outcome.

Within the model, I also consider the role of the United Nations as conflict "meta-regulator." The United Nations has the ability to sanction even (multiple) interveners to conflict and might use this mandate to end cases of Prisoner's Dilemma type escalatory intervention. I derive conditions under which such effect on the part of the United Nations is possible and further note that the calculated effect, when applicable, has desirable humanitarian and Paretian properties. The remainder of the paper is structured as follows. Section 2 develops a conflict model of two outside intervening parties in a two stage game. I examine conditions under which two intervening parties may be locked in a prisoner's dilemma. The paper also focuses on the conditions that determine the success of UN intervention in overcoming the dilemma scenario and preventing bilateral intervention. Section 3 concludes the current research and discusses possible future research.

2. Theoretical Model: A Simple Intervention Game

Our simple intervention game begins in the shadow of conflict. I consider two outside parties, each with a distinct ally among the two primary parties to conflict. Each outside party simultaneously considers whether to allocate a (fixed) positive amount of resources to intervene in a manner that improves its ally's arms-related endowment or arms-related purchasing power (e.g., through arms subsidy, arms gifts, or direct military intervention). In either case, an outside party derives geostrategic and economic benefit if its ally wins control of the contested territory. This benefit may often derive from some characteristic of the aligned party. During the Cold War, for example, such a benefit may have been tied to the policies of containment and expansion. The United States valued the containment of Communism, and the Soviet Union valued the expansion of Communism to new territories. As another example, American Evangelicals regularly lobby in Washington D.C. for U.S. support of Israel. They do so in the belief that the existence of Israel as a Jewish state fulfills biblical prophecy.

The simple intervention game is depicted in normal form below. Parties 1 and 2 represent outside intervening parties to conflict and are the focal point of the analysis. Implicit in the game are two primary parties in the shadow of conflict.

Table 1: Simple Intervention Game in Normal Form

1 \ 2	No IN	IN
No IN	$(pS_1, (1-p)S_2)$	$\left(\begin{array}{l}\left(p - \dfrac{\partial(1-p)}{\partial I_2}I_2\right)S_1, \\ \left(1 - p + \dfrac{\partial(1-p)}{\partial I_2}I_2\right)S_2 - cI_2\end{array}\right)$
IN	$\left(\begin{array}{l}\left(p + \dfrac{\partial p}{\partial I_1}I_1\right)S_1 - cI_1, \\ \left(1 - p - \dfrac{\partial p}{\partial I_1}I_1\right)S_2\end{array}\right)$	$\left(\begin{array}{l}\left(p + \dfrac{\partial p}{\partial I_1}I_1 - \dfrac{\partial(1-p)}{\partial I_2}I_2\right)S_1 - cI_1, \\ \left(1 - p - \dfrac{\partial p}{\partial I_1}I_1 + \dfrac{\partial(1-p)}{\partial I_2}I_2\right)S_2 - cI_2\end{array}\right)$

where 1 = Party 1, 2 = Party 2, IN = Intervention

In this table, p $(1 - p)$ represents the probability that Party 1's (Party 2's) ally wins control of the contested region

if there is no intervention, I_i represents the (fixed) positive amount of intervention chosen by Party i, S_i is the economic value associated with one's ally (preferred party) gaining control of the contested territory, c represents the unit cost of intervention, and $\frac{\partial p}{\partial I_1}$ is the marginal effect of intervention efforts by Party 1 upon its allies likelihood of success. Note that the unit cost of intervention is normalized to one. It can be verified that this intervention game possesses a Prisoner's Dilemma type Nash Equilibrium outcome if each of the following two conditions hold:

Condition 1: $\left(\frac{\partial p}{\partial I_1} I_1 - \frac{\partial (1-p)}{\partial I_2} I_2 \right) S_1 < cI_1 < \left(\frac{\partial p}{\partial I_1} I_1 \right) S_1$

Condition 2: $\left(\frac{\partial (1-p)}{\partial I_2} I_2 - \frac{\partial p}{\partial I_1} I_1 \right) S_2 < cI_2 < \left(\frac{\partial (1-p)}{\partial I_2} I_2 \right) S_2$

If the first inequality in each expression holds, then the (geostrategic) welfare of the two outside parties is lower in the case of mutual intervention, as compared to the case of no intervention. In other words, the strategy profile {intervention, intervention} is sub-optimal according to the first inequalities. I expect the first inequalities for each expression to hold if the two outside parties are sufficiently similar in their marginal effect upon the probability of conflict success. If the second inequality in each expression holds, then the marginal benefit of intervention is greater than the marginal cost of intervention *when the opposing outside party does not intervene*. This set of inequalities assures that the strategy profile {intervention, intervention} is chosen despite its sub-optimality. I expect the second inequalities to hold if the (geostrategic) value of allied success is sufficiently high and if intervention is sufficiently effective, on the margin, in changing the probability of conflict success.

One might think of each intervening party as a conflict regulator (see, e.g., Amegashie and Kutsoati 2007). In this sense, the United Nations has the potential to act as a conflict "meta-regulator" by imposing sanctions on escalatory interveners. Such action might be desirable from Paretian and humanitarian perspectives when multiple interveners are (may

become) locked in a Prisoner's Dilemma. Below, I consider a game in which the United Nations punishes escalatory intervention by imposing sanctions directly upon intervening parties.

Table 2: Simple Intervention Game in Normal Form

2 \ 1	No IN	IN
No IN	$(pS_1, (1-p)S_2)$	$\left(\begin{array}{l} \left(p - \frac{\partial(1-p)}{\partial I_2} I_2\right) S_1, \\ \left(1 - p + \frac{\partial(1-p)}{\partial I_2} I_2\right) S_2 - cI_2 - t_{UN} \end{array} \right)$
IN	$\left(\begin{array}{l} \left(p + \frac{\partial p}{\partial I_1} I_1\right) S_1 - cI_1 - t_{UN}, \\ \left(1 - p - \frac{\partial p}{\partial I_1} I_1\right) S_2 \end{array} \right)$	$\left(\begin{array}{l} \left(p + \frac{\partial p}{\partial I_1} I_1 - \frac{\partial(1-p)}{\partial I_2} I_2\right) S_1 - cI_1 - t_{UN}, \\ \left(1 - p - \frac{\partial p}{\partial I_1} I_1 + \frac{\partial(1-p)}{\partial I_2} I_2\right) S_2 - cI_2 - t_{UN} \end{array} \right)$

where 1 = Party 1, 2 = Party 2, IN = Intervention

In the above diagram, t_{UN} represents the value of a tax or sanction imposed upon escalatory interveners by the United Nations. This policy variable can potentially change the game's equilibrium from a Prisoner's Dilemma outcome to an efficient equilibrium outcome. The conditions for such an effect are as follows.

Condition 3: $\left(\frac{\partial p}{\partial I_1} I_1 - \frac{\partial(1-p)}{\partial I_2} I_2\right) S_1 < \left(\frac{\partial p}{\partial I_1} I_1\right) S_1 < cI_1 + t_{UN}$

Condition 4: $\left(\frac{\partial(1-p)}{\partial I_2} I_2 - \frac{\partial p}{\partial I_1} I_1\right) S_2 < \left(\frac{\partial(1-p)}{\partial I_2} I_2\right) S_2 < cI_2 + t_{UN}$

The first inequality in each condition is true by definition. It is presented, however, to provide a comparison between the first and third terms in each inequality. Said comparison assures that the strategy profile {intervention, intervention} is sub-optimal (i.e., a Prisoner's Dilemma type outcome is possible depending on the actions of the intervening parties). The third term in each condition is likely to be larger than the corresponding first term as the magnitude of U.N. sanctions rises, as the unit cost of intervention increases, and as the marginal effectiveness of intervention decreases, and as the strategic value of intervention declines. The second inequality in each condition assures that non-intervention is chosen by

each party in the presence of U.N. "meta-intervention." This inequality is also more likely to hold as the magnitude of U.N. sanctions rises.

3. Conclusion and future research

In cases of bilateral, escalatory intervention, outside parties that seek to decrease the cost of allied arming may greatly intensify a given conflict (Chang, Potter, and Sanders 2007). As the benefit of a conflict is essentially fixed or decreasing in conflict, the intensification of fighting by an intervening party is undesirable from human and welfare perspectives (Sanders 2012). Herein, I study the welfare effects of bilateral, escalatory intervention upon intervening parties. This vantage point stands in contrast to a great deal of literature examining the effect of conflict intervention upon the primary parties to conflict. From this simple, game-theoretic analysis, we gain a greater understanding as to the nature of conflict intervention. Whenever there are outside parties to a conflict that are sufficiently symmetric, countervailing interventions may occur as a Prisoner's Dilemma outcome. Thus, intervening parties may become worse off through their own intervention efforts. This result brings into further question the desirability of escalatory conflict intervention. We can speculate that the United States and Communist powers were sufficiently similar during the Cold War to elicit such a result. Indeed, respective policies of containment and expansion appear to have drawn the two parties into the same conflicts on multiple occasions. If the United Nations imposes sufficient sanctions costs upon intervening parties, I lastly find that United Nations "meta-intervention" can prevent a (sub-optimal) escalating, bilateral intervention.

Future research along the lines of the present study may seek to understand if the motivations of conflict interveners are different in the case of "proxy wars" than in other cases of intervention. A proxy war is often a (costly) demonstration of military ability. Unlike other cases of intervention, intervening parties staging a proxy war may have no vested interest in the welfare of the conflicted land, and this may increase the likelihood that conflict escalates through intervention. Indeed, proxy wars may be especially costly (e.g., costly beyond the

degree of a "typical conflict") for the inhabitants of the conflicted region.

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Appendix

A1: Prisoner's Dilemma type Nash Equilibrium outcome (Conditions 1 & 2)

The first inequality of condition 1

$$= \left(\frac{\partial p}{\partial I_1} I_1 - \frac{\partial (1-p)}{\partial I_2} I_2 \right) S_1 < cI_1$$

The corresponding pay off (Table 1)

$$= \left(p + \frac{\partial p}{\partial I_1} I_1 - \frac{\partial (1-p)}{\partial I_2} I_2 \right) S_1 - cI_1$$

$$= pS_1 + \left(\frac{\partial p}{\partial I_1} I_1 - \frac{\partial (1-p)}{\partial I_2} I_2 \right) S_1 - cI_1 < pS_1$$

(from condition 1)

It shows the outcome (with intervention from both) is less than optimal (without intervention)

The second inequality of condition 1

$$= cI_1 < \left(\frac{\partial p}{\partial I_1} I_1 \right) S_1$$

$$= \left(\frac{\partial p}{\partial I_1} I_1 \right) S_1 - cI_1 > 0$$

It implies that the benefit of intervention is greater than the cost. (Choose to intervene)

Similar analysis for condition 2.

A2: Prisoner's Dilemma outcome to an efficient equilibrium outcome (conditions 3 & 4)

The first and third terms of the condition 3

$$= \left(\frac{\partial p}{\partial I_1} I_1 - \frac{\partial (1-p)}{\partial I_2} I_2 \right) S_1 < cI_1 + t_{UN}$$

The corresponding payoff (Table 2)

$$= \left(p + \frac{\partial p}{\partial I_1} I_1 - \frac{\partial (1-p)}{\partial I_2} I_2 \right) S_1 - c I_1 - t_{UN}$$

$$= p S_1 + \left(\frac{\partial p}{\partial I_1} I_1 - \frac{\partial (1-p)}{\partial I_2} I_2 \right) S_1 - c I_1 - t_{UN} < p S_1$$

It shows sub-optimal outcome than without intervention.

The second inequality of condition 3

$$= \left(\frac{\partial p}{\partial I_1} I_1 \right) S_1 < c I_1 + t_{UN}$$

$$= (c I_1 + t_{UN}) - \left(\frac{\partial p}{\partial I_1} I_1 \right) S_1 > 0$$

It shows the cost of intervention is greater than the benefit. (Choose not to intervene).

Similar analysis for condition 4.