Rational retaliation:
Superpower response to crisis, 1948–1979*

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Abstract. Using a modified version of Chicken, referred to as the Threat Game, Brams and Kilgour (1987a; 1987b) have developed a theoretical model of rational retaliation in superpower crises. They derive explicit thresholds for sufficient retaliation against provocations to deter them in the first place. When the retaliating move meets or is more coercive than a threshold value, it is rational for the adversaries to prefer to desist from conflict, whereas a response that is too cooperative will not provide the same incentive.

Data on superpower crises from 1948 to 1979 will be used to test a modified version of the model developed by Brams and Kilgour. A description of their model, culminating in some revisions, is the point of departure. Selection of cases from the International Crisis Behavior (ICB) Project data set, operationalization of the model and testing will follow. Finally, implications of the generally positive findings are discussed.

1. Introduction

Since every international conflict holds some risk of escalation — perhaps even resulting in superpower confrontation at the nuclear level — it is worthwhile to explore more effective means of crisis management. The objective of this study is to use data on superpower crises to test a modified version of the model of rational retaliation developed by Brams and Kilgour (1987a; 1987b). A description of their model, culminating in some revisions, is the first stage of the investigation. Selection of cases and operationalization of the model comprise the second phase and testing is the third. The final stage concerns the implications of the findings.

Of course, formal models of international conflict other than that of Brams and Kilgour could be applied to the superpower rivalry and then tested. A salient — and more general — model, also based on economic theory, is developed by Hirshleifer (1988) in the special issue of Synthese devoted to formal analysis of international relations. Although his rigorous model of continuing

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conflict could be tested, none of its variants is designed specifically to deal with crisis-oriented, superpower nuclear rivalry. Although Hirshleifer's (1988: 221) Threat-and-Promise solutions most clearly resemble the one that will be adapted from Brams and Kilgour, only a single round of play is assumed: "the controller will have prespecified a reaction function, a set of threats and promises, that will govern his last-word responses to the subordinate's choice". In sum, the model derived by Brams and Kilgour has more direct application to superpower crises, whereas that of Hirshleifer (and others in the special issue of Synthese) could be used more profitably to analyze arms races, terrorism and other continuing conflicts.

2. The threat game and rational retaliation

According to Brams (1985), the game of "Chicken" is well-suited as a model of nuclear deterrence between the superpowers.1 With two modifications, as Brams and Kilgour (1987a, 1987b) have demonstrated, Chicken can be transformed into a superior model of bargaining at the superpower level: (i) the players can make quantitative choices of levels of cooperation (C) or noncooperation (C'), not just qualitative choices of C or C'; and (ii) once these initial choices, which can be interpreted as levels of nonpreemption (versus preemption) are made, the less preemptive player (i.e., who chose the lower level of preemption initially, if there was one) can retaliate by choosing a different — and presumably higher — level of noncooperation subsequently (Brams and Kilgour, 1987a). This version of Chicken is known as the "Threat Game". The two changes effectively respond to some of the most telling criticisms of game matrices (Morgan, 1984).

Specifically, the players are no longer assumed to have just two options; there is a continuum of cooperation and conflict. Simultaneous choices that conclude play also are not entailed by the Threat Game, because the second modification allows for altered tactics for at least one of the antagonists. This also appears to be more consistent with the reality of superpower bargaining in crises.

There are two ways in which the game can terminate. If the initial levels of C or C' are the same, play is terminated; when they are not equivalent, the game ends after the more cooperative player has retaliated. This is intended to replicate the process of escalation in a bilateral crisis (Brams and Kilgour, 1987a: 835).

Brams and Kilgour "telescope" escalation into a "single retaliatory counter-move" by the less preemptive player (1987a: 835). Further rounds of escalation could be included, but "the present simple sequence captures well both the process that might trigger further escalation and the core meaning of deter-