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Brothers in arms – An experiment on the alliance puzzle

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ABSTRACT

The generic alliance game considers players in an alliance who fight against an external enemy. After victory, the alliance may break up, and its members may fight against each other over the spoils of the victory. Our experimental analysis of this game shows: In-group solidarity vanishes after the break-up of the alliance. Former ‘brothers in arms’ fight even more vigorously against each other than strangers do. Furthermore, this vigorous internal fighting is anticipated and reduces the ability of the alliance to mobilize the joint fighting effort, compared to a situation in which victorious alliance members share the spoils of victory equally and peacefully.

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1. Introduction

Alliances are an important and widespread phenomenon in conflict. Psychologists emphasize the importance of fighting in an alliance. Baumeister and Leary (1995, p. 499), for instance, argue that there is a “severe competitive disadvantage of the lone individual confronting a group” and that, “when other people are in groups, it is vital to belong to a group oneself”. Other researchers emphasize the importance of group spirit; Campbell Donald (1965, p. 293) considers “the willingness to risk death for group causes” as one of the “things which makes lethal war possible”. Work on alliances by Sherif et al. (1961) reveals the importance of the rival, or out-group, for the emergence of in-group solidarity and out-group hostility. Cohesion among brothers in arms is possibly generated by the common enemy or ‘threat’.²

In contrast, narrow rational choice reasoning hints at two major disadvantages for the members of an alliance. First, in the competition between the alliance and its adversaries, the members of the alliance face a free-rider problem, as their contributions to the fighting effort in the inter-alliance competition are, to some extent, contributions to a public good (Olson and Zeckhauser, 1966).³ The members of an alliance – the ‘brothers in arms’ – all benefit from higher collective fighting effort of their alliance. However, each member should prefer additional effort to be expended by other members of his group. The members of an alliance also face a second strategic problem: if the alliance is victorious, they may quarrel

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² See, e.g., Wilkins (2006) for a discussion of the ‘realist’ and the ‘pluralist’ theory in the context of the Normandy Campaign 1944.

³ See, e.g., Baik et al. (2001, 1998), Davis and Reilly (1999), Esteban and Ray (2001), Katz et al. (1990), Lee (1995), Nitzan (1991a, 1991b, 1994), Nitzan and Ueda (2008), Rapoport and Amaldoss (1997), and Ursprung (1990).

over the division of the spoils of victory. The effort expended in this internal distributional conflict reduces the value they attribute to winning this prize. This should further discourage alliance members at the stage at which they decide upon their contribution to the inter-alliance conflict.⁴ These considerations may be summarized as the “alliance puzzle”: on the one hand, to be in an alliance is vital on some accounts; but, on the other hand, alliances face strategic disadvantages that actually weaken the alliance members’ position in the conflict, compared to stand-alone players.

Both psychological effects and rational choice considerations may be at work. Empirically, the formation and resolution of alliances is a dynamic phenomenon, and each cause of conflict is full of idiosyncrasies. This makes it difficult to distinguish between these effects and to measure their size empirically. The experimental laboratory, with its controlled environment, allows us to separate the different effects. International military alliances have many complex features, which lead to further relevant questions, ranging from the process of forming and dissolving alliances to the timing of alliance formation. These and many other aspects will, by intention, not play a role in the experimental framework; and, what seemingly is a weakness of the approach is in fact its main strength. Accounting for all these issues blurs the picture and generally causes considerable data problems. In the experiment, it is possible to remove the endogeneity problem and to detach a single conflict from the larger course of history, allowing us to concentrate on the strategic aspects that remain in our more narrowly defined framework.

We ask two main questions. First, we address the role of internal distributional conflict. Taking into account that future redistributional conflict within a victorious alliance reduces the value of winning, how important is the prospect of future redistributional conflict for the amount that alliance members contribute to the alliance effort? Does this future intra-alliance conflict among the members of a victorious alliance discourage its members from making effort contributions in the conflict between the alliance and its adversary, compared to a situation in which they must peacefully share the spoils of victory? Second, we address the psychological effect of in-group and between-group dynamics. We ask: how do the alliance members’ experiences of successfully fighting ‘shoulder-to-shoulder’ affect their willingness to turn against each other when they have to solve the distributional conflict between them? There is strong evidence showing in-group favoritism inside alliances, particularly if they are threatened by an enemy.⁵ But does this mutual favoritism survive once the external enemy has been defeated, or does it disappear with the disappearance of the purpose that established the alliance?

In the experimental set-up, we study a contest between an alliance – consisting of two players – and a single player. Alliance players and the single player expend efforts trying to win a reward or prize of a given size. If the single player wins, he takes the prize and the game ends. If the alliance wins, the alliance players need to share this prize. We consider two different – exogenously imposed – regimes that differ in the rules concerning how the prize is allocated among the members of the alliance. In one regime, the alliance members must split the gains from winning evenly. In this regime, alliance players face only a free-riding problem. In a second regime, the members of an alliance that wins the prize have to fight about how to distribute the gains from winning between them. Here, in addition to the free-riding problem, alliance members face a hold-up problem: if they win, they enter into a costly internal fight. The comparison of these two regimes yields an answer to the first of the key questions: do brothers in arms behave differently in inter-alliance contest if future internal fighting among the members of a victorious alliance can be expected? The second key question compares contest efforts in two situations: (i) efforts of players who have been together in a winning alliance and now fight internally in the distribution conflict, and (ii) efforts of players who have not previously been together in an alliance, but fight in a two-player contest over a prize of the same size. This comparison provides insights about whether or not in-group solidarity, arising inside the alliance during the process of fighting against an external enemy, survives the defeat of the enemy.

Our results are mostly in line with the rational choice theory of alliances, and we do not find strong evidence in support of the survival of in-group solidarity. First, compared to an alliance in which the spoils of victory are peacefully and evenly shared, alliance members contribute less to the total alliance effort if the members of a victorious alliance face a wasteful distributional conflict within the group. This behavior is in line with the predictions of the subgame-perfect equilibrium of players who care about their monetary payoff: alliance members who anticipate the strategic problem of intra-alliance fighting should expend less resources in the inter-alliance contest, because the dissipative internal conflict reduces the expected value of winning the inter-alliance contest. Second, we find no evidence that the experience of fighting ‘shoulder-to-shoulder’ in an alliance against a joint enemy reduces the alliance members’ mutual hostility when it comes to dividing the spoils of victory. Despite the empirical findings about the formation of minimal groups and in-group favoritism within such groups in the presence of an out-group,⁶ such in-group solidarity seemingly breaks down as soon as the joint enemy is defeated. If anything, former allies fight each other even more vigorously than contestants who have no joint history.

The different effects which we isolate and quantify in the laboratory can be illustrated by anecdotal evidence for wars. Apart from discussions of free-riding and strategies of burden shifting among allies,⁷ many writers emphasize a high potential for the break-up of the alliance when defeat of the enemy is imminent. The break-up of the Great Alliance right after the Second World War and the beginning of the Cold War is perhaps the best and most frequently cited example of former

⁴ See Katz and Tokatlidu (1996), Esteban and Sákovics (2003), Müller and Wärneryd (2001), Wärneryd (1998), Konrad (2004).

⁵ See, e.g., Bernhard et al. (2006), Brewer (1979), and Sherif et al. (1961).

⁶ See Sherif et al. (1961), Charness et al. (2007), Chen and Li (2009), Sutter (2009), Ambrus et al. (2009).

⁷ Starr (1972, p. 28), for instance makes this point: “Indeed the Russians felt that the Western Allies had conspired to foist the human cost of the war upon them, as reflected in the delay in the opening of a second front, and the resulting casualty figures of the Red Army”.

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