

Foundations

Strategic play is the outcome of individually rational decisions by a group of people with conflicting goals, each of whom recognizes his or her choice affects the others too. In models of human behavior, strategic play occupies an uneasy territory between problems individuals solve without reference to others, called games with nature, and problems that individuals solve in competitive markets, where all relations between the individuals are bilateral transactions whose terms of trade are dictated by prices beyond the influence of either trading party.

The territory occupied by strategic play is difficult to traverse, and its borders are porous. In a neighboring field lurk questions about whether people are rational, and whether optimization problems are too difficult to solve, questions that spill over into problems involving strategic play. On the other border lie models of competitive equilibrium, so pervasive and eloquent, that many economics textbooks relegate strategy to a minor role, often progressing directly from models of individual optimization to models of competitive behavior, where no individual accounts for his affect on the others.

But there is ample scope for strategic play in all walks of life, and practitioners like businessmen, managers, administrators and politicians ignore it at their peril. Whether the focus is on office politics, products promotional schemes, rivalry with competitors, supply contracts, negotiations between workers and managers, or corporate restructuring, many of these issues have elements of strategic elements that guide the choices of those involved. Indeed when small numbers of players in pursuit of a common objective take actions that influence each other, they are described as a team, but as soon as the common objective is compromised by individual differences, strategic play is inevitable.

This book merges game theory with experimental methods to study strategic play. We believe data from experimental studies can help in evaluating predictions about human behavior derived from the solutions to games that determine their equilibrium. Chapter 1 outlines our approach to studying strategic play and describes its four main components. They are: how to model problems in business and economics as noncooperative games, how to solve the games, how to conduct experimental sessions that are based on them, and how to analyze the data compiled from the experimental sessions. The second chapter is a brief guide to analyzing the behavior of subjects in experiments. It reviews statistics that are used to analyze data generated by experiments, and contrasts inference procedures in field data versus experimental data.