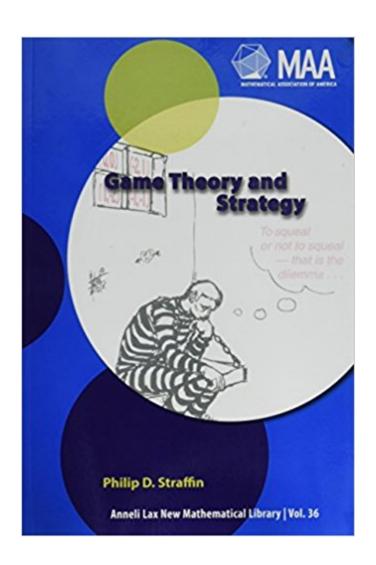


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# Game Theory And Strategy (New Mathematical Library, No. 36)





## **Synopsis**

This book pays careful attention to applications of game theory in a wide variety of disciplines. The applications are treated in considerable depth. The book assumes only high school algebra, yet gently builds to mathematical thinking of some sophistication. Game Theory and Strategy might serve as an introduction to both axiomatic mathematical thinking and the fundamental process of mathematical modelling. It gives insight into both the nature of pure mathematics, and the way in which mathematics can be applied to real problems.

#### **Book Information**

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#### Customer Reviews

'Game Theory and Strategy is an elegant, crystal-clear expository work. Key concepts are emphasized and clearly explained.' Nature

This book pays careful attention to applications of game theory in a wide variety of disciplines. The applications are treated in considerable depth. The book assumes only high school algebra, yet gently builds to mathematical thinking of some sophistication. It gives insight into both the nature of pure mathematics, and the way in which mathematics can be applied to real problems.

Fun and entertaining. Great way to learn Game Theory.

This is my first book in Game Theory. I think this is a fair introduction for newers. The exercises are a good way to test the comprehension. I am sure there are more technical books on the market but

this one is a great start.

This is a good first book about game theory for those who are not afraid of math but not mathematically inclined. The book is full of math but the simple explanations and the way the author builds up to the theory makes it simple to follow. I actually bought this copy for my library. I had used this book in college but had borrowed that copy from a friend.

If Prof. Straffin teaches as well as he writes he has some happy students. The book wastes no time in explaining the concepts clearly. Although the math is not inherently difficult, the concepts can be tough to fully understand and apply if not explained well. Would recommend this book to anyone interested in game theory.

I received a torn bent book.

Arrived on time, no issues.

The authors state that the essence of business success lies in making certain you're playing the right game, and present a game-theory-based framework to help managers determine if they're playing the right game. In rule-based games, players act according to specified rules from contracts, loan covenants, or trade agreements. In freewheeling games, players interact without external constraints. They assert that business is a complex mix of both types. Game-theory tells us that for every action, there is a reaction, but not necessarily equal and opposite. For freewheeling games, game theory tell us that you cannot take away from the game more than you bring to it. In either case, its primary insight is the importance of focusing on others - looking forward to put yourself in the heads of others and then reasoning backwards. Rewards from changing a game may be far greater than those from maintaining the status quo. America's auto industry was in a destructive competition mode in the early 1990s - profitability was ruined by end-of-year rebates and dealer discounts that consumers had come to expect. In September, 1992, G.M. and Household Bank issued a new credit card that allowed cardholders to apply 5% of charges towards buying/leasing a new G.M. car, up to \$500/year with a \$3,500 maximum. One month later there were 1.2 million accounts, and 8.7 million two years later. It both helped build share and replaced other incentives G.M. had offered. The net effect has been to raise the price non-cardholders would have to pay; this also allowed other firms to raise their own prices. Ford, then VW then copied the strategy. Thus, all

three companies have a more loyal customer base, reducing the incentive to compete on price. Win-win strategies such as the preceding are likely to generate less resistance, and therefore more sustainable. The authors describe this as 'coopetition.' NutraSweet is a low-calorie sweetener providing 70% gross margins for Monsanto. A challenger, the Holland Sweetener Company, built an aspartame plant in 1985 Europe in anticipation of the patent expiration, reasoning that every manufacturer likes to have at least two sources of supply. Monsanto fought back aggressively, using deep price cuts and contractual relationships with customers. Monsanto quickly ended the structure - consumers would be unfamiliar with the unbranded product, and Monsanto had a significant cost advantage manufacturing the product thanks to the learning curve. Coke and Pepsi simply wanted the same old NutraSweet at a lower price, and new contracts led to combined savings of \$200 million/year. HSC should have instead demanded payment for this 'service' up front, rather than expecting success from competing against Monsanto. Bidders do well to keep this rationale in mind when competing for acquisitions. The authors then present other examples - eg. 3DO's approach to becoming established in the software gaming market.

Harvard Business Review article, published in July-August 1995, by Harvard Business School professor Adam M. Brandenburger and Yale School of Management professor Barry J. Nalebuff."Unlike war and sports, business is not about winning and losing. ... The essence of business success lies in making sure you're playing the right game." The authors predicts that 50 years after the introduction of game theory by John von Neumann and Oskar Morgenstern ('Theory of Games and Economic Behavior', 1944), "game theory is about to change the game of business." They use the introduction of General Motors' credit card in 1992 as an example for win-win situations. Win-win strategies can give several advantages: (1) There is greater potential for finding new opportunities; (2) They are easier to implement; and (3) The new game is more sustainable. The authors turn to the game of business which is all about value: creating it and capturing it. They introduce the 'Value Net', with the same players are Michael Porter's five competitive forces, as a schematic map designed to reprent all the players and the interdependencies among them. This 'Value Net' prompts you to explore all the interdependencies in the game. In order to change the game, you first need to draw the 'Value Net' for your industry and, second, identify all the elements of the game. According to game theory, there are five elements: players, added values, rules, tactics, and scope - PARTS for short. Brandenburger and Nalebuff discuss each of these elements in detail, including examples. But they warn readers: "Changing the game is hard. There are many potential traps." The authors discuss five of them, but provide another warning: "there is no silver

bullet for changing the game of business. It is an ongoing process. ... There is, after all, no end to the game of changing the game."Game theory is far from simple and it requires you to open your mind or even change your mind-set. This article provides a good, simple introduction, but for further guidance you probably have to go for Brandenburger and Nalebuff 1997-book 'Co-opetition'. I would like to recommended 'Wharton on Dynamic Competitive Strategy' (1997). This article is recommended to MBA-students and beginners in the field. The article uses simple US-English.

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