



Managerial Economics

A Problem Solving Approach



Luke M. Froeb Brian McCann



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For Lisa, Halley, Jake, and Chris

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Preface

Teaching Students to Solve Problems by Luke Froeb

When I began teaching at a business school, I taught economics as I had learned it, using formal models and public policy applications. My students could not see its relevance to business, and our late dean, Marty Geisel, threatened to fire me unless customer satisfaction increased.

So I abandoned the public policy applications and began teaching students to exploit inefficiency as a money-making opportunity. I changed from a model-based to a problem-based pedagogy by focusing on business mistakes. I used models sparingly and only to the extent that they helped students to solve business problems. I reduced the analysis to a single lesson¹ that tied the different applications together. These changes kept me from getting fired, but students still had trouble making the connection between what I taught and the kind of decisions they faced at work.

The missing link was provided by the so-called Rochester² approach to organizational design. Traditional economic tools teach students to identify profitable decisions, while organizational design shows students how to implement them. Teaching one without the other may explain why students have difficulty seeing the relevance of economics to business. Identifying profitable decisions without being able to implement them, or implementing decisions without knowing whether they are profitable, are both fruitless exercises.

Organizational design is particularly useful for teaching students the two components of problem solving. First, to figure out what is wrong, students learn to ask three questions:

- Who made the bad decision?
- Did the decision maker have enough information to make a good decision?
- Did he or she have the incentive to do so?

Answers to these three questions will suggest changes in the organizational design focused on

- letting someone else make the decision,

¹ The art of business is to find an asset in a lower-valued use and figure out how to profitably move it to higher-valued use.

² Michael Jensen and William Meckling, *A Theory of the Firm: Governance, Residual Claims and Organizational Forms* (Cambridge, MA: Harvard University Press, 2000); and James Brickley, Clifford Smith, and Jerold Zimmerman, *Managerial Economics and Organizational Architecture* (Chicago: Irwin, 1997).

- changing the information flow, or
- changing incentives.

I wrote this book only because there was no other that used these ideas to teach MBAs. It differs from traditional managerial economics textbooks in several respects. First, it's relatively short. I cover only the most important ideas because teaching a few ideas well is better than teaching many poorly. In addition, the short text lets professors customize courses with their own supplementary material, knowing that each student, regardless of his or her background, should be able to read the book cover to cover and walk away with a basic understanding of how to use the rational-actor paradigm to identify problems and ways to fix them.

Second, the book follows a problem-based pedagogy rather than the traditional model-based pedagogy. I pose a problem, like the *fixed-cost fallacy*, and then give students just enough analytic structure to compute the costs and the benefits of various solutions. I then ask them to solve similar problems. Teaching students to solve problems, rather than learn models, is a much better way to teach economics in a terminal MBA economics course. To see this, ask yourself which of the following ideas is more likely to stay with your students after the class is over: the fixed-cost fallacy or that the partial derivative of profit with respect to price is independent of fixed costs.

A problem-based pedagogy means that we spend less time on formal models. As mentioned earlier, students find it very difficult to relate to abstract models because they learn differently than we do.³ Second, and more important, some models aren't very useful for solving real problems. For example, I think price-taking behavior and upward-sloping marginal costs are rare. In my 10 years of investigating mergers at the Federal Trade Commission and the Department of Justice, we always asked managers of nonmerging firms whether they could double output at the same marginal cost in the event of a postmerger price increase. They invariably answered yes. So, I think the scope of firms is limited *not* by upward-sloping marginal costs but rather by downward-sloping marginal revenue. Because of this, I give short shrift to the study of price-taking firm behavior. This means that I have to motivate the supply–demand model at the aggregate level by showing students that it is a good description of aggregate (industry-level) behavior even though it may not accurately describe individual firm or buyer behavior.

Third, the book does not devote much space to teaching the mechanical aspects of benefit–cost analysis. Because the only way to learn this material is by doing problems, it is better taught online using interactive programs, like the managerial economics module of South-Western's MBAPrimer.com or Samuel Baker's *Economic Interactive Tutorials*.⁴ These programs teach an idea, like

³ Charles C. Schroeder, "New Students—New Learning Styles," *Change* 25, no. 5 (September 1993): 21.

⁴ <http://hadm.sph.sc.edu/Courses/Econ/Tutorials.html>.

marginal analysis, and then immediately ask the student to apply the idea by filling in cells on a spreadsheet. At the end of each section, students take a quiz to test themselves. If they do not know the answer to a question, they can scroll back to the relevant material. Then, when students are confident that they understand the material, I give them an online closed-book quiz on the same material.

Using online material to teach the tools of benefit–cost analysis accomplishes two things. First, it allows students to learn them at their own pace. This allows a professor to teach students of varying backgrounds in the same class. Those with good analytic ability or economics training can cruise through the online material without much effort but still learn a lot from the in-class business applications, while students with less aptitude or training will devote more time to learning the tools. Second, it allows residential MBA programs to differentiate their classes from those in online programs by using scarce class time to teach students how to apply economic tools. For example, I begin each class with a problem and cold-call students until they figure out what is wrong and how to fix it. For those of you teaching in executive MBA programs, make sure to reserve some class time for group presentations built around the group homework problems. You will hear some great stories from your students, and they will see an immediate payoff from the class by applying the tools to their own companies. The group problems are less effective for students with less work experience, so I use them sparingly, or not at all, in the regular MBA program.

Finally, as mentioned, the book integrates organizational design into the traditional economic analysis. Identifying a problem using benefit–cost analysis is only the first step. Fixing it requires an understanding of how organizations behave.

This book is aimed at three different audiences. First, it’s accessible to anyone who can read and think clearly. But because the pedagogy is built around business problems, the book is most effective for those with work experience. Second, the book is useful for executive education, in both degree and nondegree programs. Third, it works in a full-time MBA program. In the degree programs, I supplement the material in the book with online interactive exercises.

Anyone who has read *Economics in One Lesson* will recognize the book as an homage to Henry Hazlitt. As he does in his book, I try to impart the intuition of economics with problems and anecdotes. I try for the same directness, simplicity, and clarity but wrap the stories in a stronger analytic framework, more suited to a course in a degree program.

I wish to acknowledge 13 classes of MBA students, without whom none of this would have been possible—or necessary. Many of my former students will recognize their companies in the notes. The stories in the book are from students and are for teaching purposes only.

I owe a special debt to my coauthor Brian McCann not only for contributing significant amounts of new material to the book, but also for re-writing and editing all of the text, in addition to lecturing to my Vanderbilt MBA class while I was on leave as chief economist at the Federal Trade Commission.

Thanks to everyone who contributed, knowingly or not, to the book. I owe intellectual debts to former colleagues at the U.S. Department of Justice (among them, Cindy Alexander, Tim Brennan, Ken Heyer, Kevin James, Bruce Kobayahsi, and Greg Werden); to former colleagues at the Federal Trade Commission (among them Bill Blumenthal, Bob Brogan, Jerry Butters, Liz Callison, James Cooper, Susan Creighton, Pat DeGraba, Tim Deyak, Jeff Fischer, Mark Frankena, Hadeishi Hajime, Dan Hosken, David Hyman, Pauline Ippolito, Jim Lacko, Bill Kovacic, Tom Krattenmaker, Rob McMillan, Joe Mulholland, Tim Muris, Dan O'Brien, Maureen Ohlhausen, Jan Pappalardo, John Parisi, Lydia Parnes, Paul Pautler, Lee Peeler, Dave Schmidt, Joel Schrag, Lou Silvia, Chris Taylor, Steve Tenn, Randy Tritell, and Mike Vita); to colleagues at Vanderbilt (among them, Germain Boer, Jim Bradford, Bill Christie, Mark Cohen, Myeong Chang, Craig Lewis, Doug Meeks, Rick Oliver, David Rados, Steven Tschantz, David Scheffman, Mikhael Shor, and Bart Victor); and to numerous friends and colleagues who offered suggestions, problems, and anecdotes for the book, among them, Pat Bajari, Roger Brinner, the Honorable Jim Cooper, Matthew Dixon Cowles, Jeff and Jenny Hubbard, Dan Kessler, Jim Overdahl, Mike Saint, Bill Shughart, Whitney Tilson, and Susan Woodward. I owe intellectual and pedagogical debts to Armen Alchian and William Allen,⁵ Henry Hazlitt,⁶ Shlomo Maital,⁷ John MacMillan,⁸ Steven Landsburg,⁹ Ivan Png,¹⁰ Victor Tabbush,¹¹ Michael Jensen and William Meckling,¹² and James Brickley, Clifford Smith, and Jerold Zimmerman.¹³ Thanks as well to everyone who helped guide us through the publishing process, including Alex von Rosenberg, Michael Worls, Jennifer Garamy, Cliff Kallemeyn, Trish Taylor, and Emily Thompson.

⁵ Armen Alchian and William Allen, *Exchange and Production*, 3rd ed. (Belmont, CA: Wadsworth, 1983).

⁶ Henry Hazlitt, *Economics in One Lesson* (New York: Crown, 1979).

⁷ Shlomo Maital, *Executive Economics: Ten Essential Tools for Managers* (New York: Free Press, 1994).

⁸ John MacMillan, *Games, Strategies, and Managers* (Oxford: Oxford University Press, 1992).

⁹ Steven Landsburg, *The Armchair Economist: Economics and Everyday Life* (New York: Free Press, 1993).

¹⁰ Ivan Png, *Managerial Economics* (Malden, MA: Blackwell, 1998).

¹¹ <http://www.mbaprimer.com>.

¹² Michael Jensen and William Meckling, *A Theory of the Firm: Governance, Residual Claims and Organizational Forms* (Cambridge, MA: Harvard University Press, 2000).

¹³ James Brickley, Clifford Smith, and Jerold Zimmerman, *Managerial Economics and Organizational Architecture* (Chicago: Irwin, 1997).