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The Economics of Managerial Decisions

Roger D. Blair • Mark Rush

THE ECONOMICS OF MANAGERIAL DECISIONS

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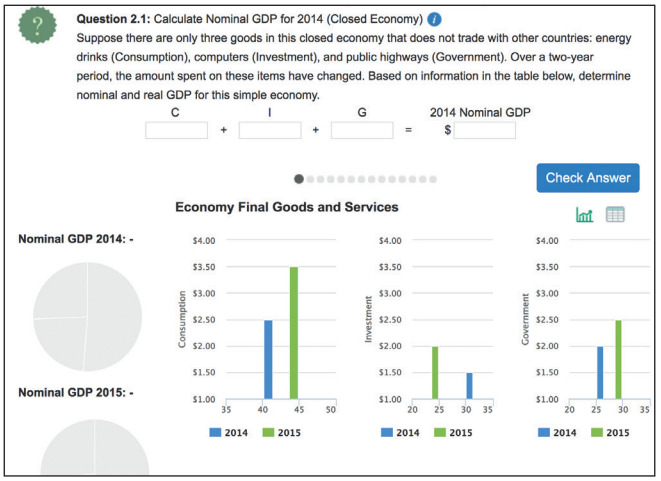

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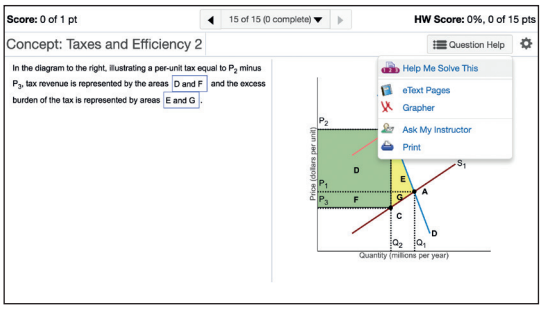

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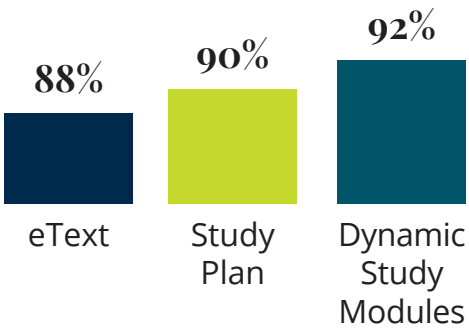

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THE ECONOMICS OF MANAGERIAL DECISIONS

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For Chau, our kids and our grandkids
Roger D. Blair

For Sue's memory and our kids
Mark B. Rush

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Solving Teaching and Learning Challenges

Students who enroll in the managerial economics course are typically not economics majors. They take the course with the goal of building skills that will help them become better managers in a variety of business settings, including small and large firms, nonprofit organizations, and public service. In teaching our classes, we often skipped theoretical, abstract coverage in existing books—such as indifference curves, isoquants, the Cobb–Douglas production function, the Rothschild Index, and the Lerner Index—because these topics are not useful to students pursuing careers in management. Based on our teaching experiences and feedback from many reviewers and class testers, we have omitted this sort of theoretical, abstract coverage from our book.

Our decision to omit these topics does not mean that we shortchange economic theory. On the contrary, our book and a wide range of media assets show students how economic theory and concepts—including opportunity cost, marginal analysis, and profit maximization—can provide important insights into real-world managerial challenges such as how to price a product, how many workers to hire, whether to expand production, and how much to spend on advertising. Applications and extensions of the core theory abound. Some of the topics include bundled pricing, vertical integration, resale price maintenance, industry-wide advertising, settlement of legal disputes, present value and investment decisions, auctions and optimal bidding, and optimal patent search. We focus on how to think critically and make decisions in real-world business situations—in other words, how to *apply* economic theory.

MyLab Economics

MyLab Economics is an online homework, tutorial, and assessment program that delivers technology-enhanced learning in tandem with printed textbooks and etexts. It improves results by helping students quickly grasp concepts and by providing educators with a robust set of tools to easily gauge and address the performance of individuals and classrooms.

The Study Plan provides personalized recommendations for each student, based on his or her ability to master the learning objectives in your course. This allows students to focus their study time by pinpointing the precise areas they need to review, and allowing them to use customized practice and learning aids—such as videos, eText, tutorials, and more—to keep them on track.

First-in-class content is delivered digitally to help every student master critical course concepts. MyLab Economics includes Auto-Graded Excel Projects and Digital Interactives to not only help students understand important economic concepts, but also help them learn how to apply these concepts in a variety of ways so they can see how they can use economics long after the last day of class.

MyLab Economics allows for easy and flexible assignment creation, so instructors can assign a variety of assignments tailored to meet their specific course needs.

Visit www.pearson.com/mylab/economics for more information on Auto-Graded Excel Projects, Digital Interactives, our LMS integration options, and course management options for any course of any size.

Chapter Features

The following key features and media assets demonstrate how *The Economics of Managerial Decisions* keeps the spotlight on the student as a future manager.

Real-world chapter openers and closers: Each chapter begins with a real-world example that piques student interest and poses a managerial decision-making question. We revisit this question and apply the chapter content to provide an answer at the end. Because students pursue careers in various fields, the chapter openers present challenges faced by a number of different types of organizations, including large and small profit-seeking firms, government organizations, nongovernmental organizations, and nonprofits.

Managers at the Gates Foundation Decide to Subsidize Antimalarial Drugs

The Bill and Melinda Gates Foundation (Gates Foundation) is the world's largest philanthropic organization, with a trust endowment of nearly $40 billion. The foundation provides grants for education, medical research, and vaccinations around the world. As of 2015, the foundation had made total grants of $37 billion. The goal of the Gates Foundation is not maximizing profit. Instead, its goal is to save lives and improve health in developing countries.

In 2010, the Global Fund to Fight AIDS, Tuberculosis and Malaria presented proposals to the Gates Foundation to subsidize antimalarial drugs in Kenya and other nations of sub-Saharan Africa. Although the Gates Foundation provides nearly $4 billion in grants per year, there are more than $4 billion worth of competing uses for its resources. Consequently, before the managers accepted these proposals, they needed to determine their expected impact: How many people would these projects save compared to alternative uses of the funds? The managers realized that lives hinged on their decision, so they wanted to be certain that they were getting the most value for their money.

The proposed subsidy programs would lower the price patients pay for the drugs. As you learned in Chapter 2, according to the law of demand, a decrease in the price of a product increases the quantity demanded. Antimalarial drugs are no exception; if their price falls, more patients will buy them. To make the proper decision about the proposals, however, the foundation's managers needed a more quantitative estimate: Precisely how many additional patients would buy the drugs when their prices were lower?

This chapter explains how to answer this and other questions that require quantitative answers. At the end of the chapter, you will learn how the Gates Foundation's managers could forecast the number of patients they would help by subsidizing the drugs.

Sources: Karl Mathiesen, "What Is the Bill and Melinda Gates Foundation?" *The Guardian*. March 16, 2015; Gavin Yamey, Marco Schaferhoff, and Dominic Montagu, "Piloting the Affordable Medicines Facility-Malaria: What Will Success Look Like?" *Bulletin of the World Health Organization*, February 3, 2012, http://www.who.int/bulletin/volumes/90/6/11-091199/en; Erinstar, "Availability of Subsidized Malaria Drug[illegible] *Behavioral Foundations of Primary Health Care Policy Advocacy*, March 11, 2012, https://.com/2012/03/11/availability-of-subsidized-malaria-drugs-in-kenya-18-2.

Revisiting How Managers at the Gates Foundation Decided to Subsidize Antimalarial Drugs

As noted at the beginning of the chapter, the managers at the Bill and Melinda Gates Foundation want to use their funds in the best way possible. Because wasting their resources means that people could die unnecessarily, managers at the foundation want to fund the most cost-effective programs. To achieve that goal, they must determine the quantitative impact of the proposals presented to them.

In the case of the proposals to subsidize antimalarial drugs in Kenya and other nations, the managers were unlikely to have an estimated demand curve for the drugs in these countries because of data limitations. Instead, they probably relied on estimates of the price elasticity of demand to determine the increase in the quantity of drugs demanded.

The subsidy programs lowered the price of these drugs between 29 percent and 78 percent (the fall in price differed from nation to nation and from drug to drug). Overall, the average decrease in price was roughly 50 percent. Because there are few substitutes, the demand for pharmaceutical drugs is price inelastic. The price elasticity of demand for pharmaceutical drugs for low-income Danish consumers is estimated to be 0.31. Denmark and Kenya differ in an important respect: Low-income consumers in Kenya have much lower incomes than their counterparts in Denmark. Consequently, the expenditure on drugs in Kenya is a much larger fraction of consumers' income, which means that the price elasticity of demand for drugs in Kenya is larger than in Denmark. If the managers at the Bill and Melinda Gates Foundation estimated that the price elasticity of demand for drugs in Kenya was about twice that in Denmark—say, 0.60—they could then predict that lowering the price of the drugs by 50 percent would increase the quantity demanded by 50 percent $\times$ 0.60 = 30 percent.

The Gates Foundation funded the proposals to subsidize antimalarial drugs. The actual outcome was that the quantity of the drugs demanded in the different nations increased by 20 to 40 percent. The quantitative estimate was right in line with what occurred. Using the price elasticity of demand to estimate the impact of the drug subsidy proposals allowed the managers at the foundation to compare them to competing proposals and to make decisions that saved the maximum number of lives.