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## The Opportunity Cost of Economics Education

By ROBERT H. FRANK

SHORTLY after I began teaching, more than 30 years ago, three friends in different cities independently sent me the same New Yorker cartoon depicting a woman introducing a man to a friend at a party. "Mary, I'd like you to meet Marty Thorndecker," she began. "He's an economist, but he's really very nice."

Cartoons are data. That people find them amusing usually tells us something about reality. Curious about what drove responses to the economist cartoon, I began asking about the disappointed looks that appeared on people's faces when they first discovered I was an economist. Invariably they mentioned unpleasant memories of an introductory economics course. "There were all those incomprehensible graphs," was a common refrain.

Needless to say, a course can be valuable even if unpleasant. Unfortunately, however, most students seem to emerge from introductory economics courses without having learned even the most important basic principles. According to one recent study, their ability to answer simple economic questions several months after leaving the course is not measurably different from that of people who never took a principles course.

What explains such abysmal performance? One problem is the encyclopedic range typical of introductory courses. As the Nobel laureate George J. Stigler wrote more than 40 years ago, "The brief exposure to each of a vast array of techniques and problems leaves the student no basic economic logic with which to analyze the economic questions he will face as a citizen."

Another problem is that the introductory course is increasingly tailored not for the majority of students for whom it will be their only economics course, but for the negligible fraction who will go on to become professional economists. Such courses focus on the mathematical models that have become the cornerstone of modern economic theory. These models prove daunting for many students and leave them little time and energy to focus on how basic economic principles help explain everyday behavior.

But there is an even more troubling explanation for students' failure to learn fundamental economic concepts. It is that many of their professors may have only a tenuous grasp of these concepts, since they, too, took encyclopedic introductory courses, followed by advanced courses that were even more technical.

Consider, for example, the cost-benefit principle, which says that an action should be taken only if its benefit is at least as great as its cost. Although this principle sounds disarmingly

simple, many people fail to apply it correctly because they do not understand what constitutes a relevant cost. For instance, the true economic cost of attending a concert - its "opportunity cost" - includes not just the explicit cost of the ticket but also the implicit value of other opportunities that must be forgone to attend the concert.

Virtually all economists consider opportunity cost a central concept. Yet a recent study by Paul J. Ferraro and Laura O. Taylor of Georgia State University suggests that most professional economists may not really understand it. At the 2005 annual meetings of the American Economic Association, the researchers asked almost 200 professional economists to answer this question:

"You won a free ticket to see an Eric Clapton concert (which has no resale value). Bob Dylan is performing on the same night and is your next-best alternative activity. Tickets to see Dylan cost \$40. On any given day, you would be willing to pay up to \$50 to see Dylan. Assume there are no other costs of seeing either performer. Based on this information, what is the opportunity cost of seeing Eric Clapton? (a) \$0, (b) \$10, (c) \$40, or (d) \$50."

The opportunity cost of seeing Clapton is the total value of everything you must sacrifice to attend his concert - namely, the value to you of attending the Dylan concert. That value is \$10 - the difference between the \$50 that seeing his concert would be worth to you and the \$40 you would have to pay for a ticket. So the unambiguously correct answer to the question is \$10. Yet only 21.6 percent of the professional economists surveyed chose that answer, a smaller percentage than if they had chosen randomly.

Some economists who answered incorrectly complained that if people could apply the cost-benefit principle, it did not really matter if they knew the precise definition of opportunity cost. So the researchers asked another group of economists to answer an alternative version of the question in which the last sentence was revised to read this way: "What is the smallest amount that seeing Clapton would have to be worth to you to make his concert the better choice?" Again, the correct answer is \$10, and although this time a larger percentage got it right, a solid majority still chose incorrectly.

When they posed their original question to a large group of college students, the researchers found that exposure to introductory economics instruction was strikingly counterproductive. Among those who had taken a course in economics, only 7.4 percent answered correctly, compared with 17.2 percent of those who had never taken one.

Teaching students how to weigh costs and benefits intelligently should be one of the most important goals of introductory economics courses. The opportunity cost of trying to teach our students an encyclopedic list of technical topics, it seems, has been failure to achieve that goal. As Mr. Ferraro and Ms. Taylor put it in the subtitle to their paper, it is "a dismal performance from the dismal science."

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