The Economics of Cheating

There's one way to find out if a man is honest - ask him. If he says, 'Yes,' you know he is a crook.

Groucho Marx

Memorization stinks. A waste of time. Things memorized are soon forgotten without frequent use. And things used frequently need not be consciously memorized; they become habitual.

I loved singing in school choirs, but hated to memorize music. Subjects that involved logic (like economics) were right up my alley, but those requiring memorization (Latin and German) rated on a par with gutting rancid fish. Mathematics was a mixed bag. Ask me to derive a formula, and I was home free; ask me to memorize one, and I was dead... which was no problem except on exams. On exams I had too little time to derive the needed formulas from scratch and too little brain to memorize. What to do? Cheat.

Yes, I cheated. Not often. Very rarely. But I cheated. Especially with those trig functions in calculus. I mean, really. Why should anyone have to memorize that \( \frac{d}{dx} \cot u = -\csc^2 u \) or \( \frac{du}{dx} \)? I could never remember that one. I always confused it with the derivative of the cosecant. Or was it the derivative of the arctangent? I cannot remember; I never could. The solution was simple: just write it in pencil (very lightly) on the edge of the desk prior to the test. It would be there if needed and could easily be smudged out quickly in a pinch. If the desk didn't work, there was always the ankle (under my sock) or the wrist (under my watchband).

Are you shocked? Should a college professor admit to such crimes of his youth? Perhaps not. Cheating was not my finest hour. I am not proud of it; I do not recommend it to others. But professors are people, too.

Don't worry; it all came back to haunt me. I spent three years on a University Senate Academic Committee leading a drive to rewrite my institution's policy on academic dishonesty. Irony? Penance? It was deadly stuff -- eight pages of single-spaced legalese about due-process-this and hearing-board-that. I endured interminable discussions, plowed through a dozen draft versions, consulted with every constituent group under the sun, and tried to work with a university attorney who considered our policy about as important as the derivative of cotangents.

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Why do we cheat?

The early debates were the worst. A former committee member, a non-economist, would launch into moralizing that drove me right under the table. The laments about moral decay brought visions of the chorus in a Greek tragedy, actors standing to the side wailing and beating their breasts. I did not want to hear moral invective. Morals are not the primary issue. Students do not cheat because they are moral incompetents; they cheat because the marginal benefit of cheating exceeds the marginal cost.

Wait. Costs and benefits? Not morals? Is there any hard evidence to support this? Yes. Study after study find that large percents of students cheat at least occasionally. For example, economists Cliff Nowell and Doug Laufer1 reported on an experiment with 311 college students. The students were given multiple-choice quizzes that were collected and secretly photocopied. The originals were returned at the next class. Students were instructed to grade them and report their score to the instructor. The instructors would then grade the photocopies and compare results. Did anyone cheat? Had any students changed answers while grading their own quizzes? Yes. Even though the quizzes accounted for only ten percent of the course grade, one-fourth of the students cheated at least once.

Nowell and Laufer then used demographic data collected at the beginning of the semester to analyze which students cheated and why. Their results are exactly what an economist would predict: Students with the highest expected benefits and lowest expected costs were the most likely to cheat. In particular:

1. **Grades:** Students with the highest grades prior to the quiz were the least likely to cheat. With a high grade already intact, the benefit of cheating was minimal.

2. **Jobs:** Students holding down jobs were more likely to cheat than those without jobs. Students working 40 hours per week were more likely to cheat than those working part-time. A major benefit of cheating is to reduce necessary study time. Students working the most hours gain the most benefit from such a time saving.

3. **Class size:** Students in large classes cheated more often than students in small classes. Because it is harder to monitor cheating in a larger classroom, the chance of being apprehended -- and, therefore, the cost of cheating -- is smaller.

Other researchers find similar results. Activities such as heavy drinking and participation in time-intensive organizations such as fraternities or varsity athletics tend to increase the probability of cheating, while extra hours of study and an increased probability of being caught decreases it.2

In other words, students often cheat, and they make rational choices about when and where to cheat. Studies that search for correlations between cheating and measures of morality or religiosity often come up empty. Those that relate cheating to costs and benefits do not. Students who study long hours with high grades and no outside jobs and who are taking courses with small class sizes where there is a high probability of being caught cheat less than others. Is it because they are morally superior? Or is it because they face different costs and benefits?

What should be done?

Cheating is not socially efficient. Those cheating consider only the costs and benefits to themselves. They ignore the external costs they impose on others. And others are harmed. Non-cheating students suffer by comparison on exams, and taxpayers, who are paying much of the financial freight of

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2. Ibid., p. 23.
education, end up with graduates who are less knowledgeable than advertised. Promoting academic integrity makes perfect economic sense. Cheating inflicts serious damage on society; just like driving 70 mph when the legal limit is 60.

How can we reduce the incidence of cheating? My committee colleague urged exhortation. Instill good values in our students, wave the flag of integrity, appeal to their conscience, convince them to be good citizens of the world.

Hogwash. In another study comparing student-graded papers to secretly graded photocopies, the instructors found exhortation was counterproductive. After making an impassioned moral appeal to students to grade their quizzes honestly, the amount of cheating actually rose. Exhortation is not the answer. The key is to raise the expected costs or lower the expected benefits.

Unfortunately, with the emergence of the Internet and cell phone technologies, many types of cheating are less costly than ever. Complete research papers on every imaginable topic are available for purchase online at the touch of a keystroke. And almost every modern student comes equipped with a cell phone that can photograph and instantly e-mail any exam or homework answer to waiting comrades. Teachers fight back with programs such as Turnitin designed to catch plagiarism, but such efforts are costly and imperfect.

Most policies aim at raising costs to cheaters, primarily by penalizing those who are caught. Sanctions run from a slap on the wrist for minor violations to expulsion for more serious cases. But penalties have limited value. Penalties cannot be imposed without working through rather cumbersome procedures to ensure due process for the accused. Such procedures are necessary, but costly. Paperwork, testimony, and hearings take an emotional toll on both plaintiff and defendant. If only minor sanctions are at stake, instructors may decide the cost of following through on an accusation exceeds any possible gain. They may let it slide.

Raising the stakes with stiffer penalties creates other problems. When the severity of the penalty rises, the likelihood of its being imposed falls; penalties can be too tough. And seldom-imposed penalties provide little or no deterrent effect. Instructors, by and large, are a forgiving lot. We want to punish cheaters, not ruin their lives. We are reluctant to bring charges that might result in excessive consequences. Even if we try, we may not get far. Students facing possible suspension or expulsion will not stroll submissively to their doom. The cost of confessing a violation that carries a slap on the wrist is minimal; the cost of confessing a violation that gets you expelled is not. Moreover, members of hearing boards are not so quick to convict when sanctions are severe. They will demand more incontrovertible evidence before abandoning "reasonable doubt" of guilt. When penalties stiffen, fears of convicting an innocent person -- and fears of lawsuits soar.³

Policies that make it costly to cheat in the first place are better. We can shuffle test questions so that students in alternate seats must answer different questions in different orders. We can patrol the aisles, searching for unauthorized papers and stalking potential miscreants with our steely glares, and we can rearrange desks to maximize the distance between chairs.⁴

Alas. These methods can be as costly as they are effective. Multiple test versions are tedious to compose and grade; vigilant surveillance is draining and can unnerve innocent students, and rearranging desks probably violates union work rules.

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A final alternative is to cut the marginal benefit of cheating. How? Eliminate grades? Award A’s to everyone? Another colleague of mine has tried a different approach. He encourages students to bring a 3" X 5" index card to each exam, filled with whatever material they want to write on it — sort of like legalized "cheat sheets." With legal cheat sheets, students have less incentive to smuggle their own into exams, or even to strain to see someone else's answers. In addition, the effort in deciding what information is critical and then painstakingly writing it out by hand helps students learn the material. He reports that it does work. It changes the costs and benefits of cheating.5

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**Notes:**

3. This could explain why several studies have failed to find any evidence that harsher penalties discourage cheating. See Bispring, *op. cit.*
4. Policies such as increased vigilance and multiple versions do seem effective deterents. See Kerkvliet, Joe and Charles L. Sigmund, "Can We Control Cheating in the Classroom", *Journal of Economic Education*, Fall 1999, pp. 331-343.
5. The approach is not foolproof. Students have been caught trying to smuggle multiple index cards into tests.

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**Testing Yourself**

To test your understanding of the major concepts in this reading, try answering the following:

1. Identify factors that are likely to impact the amount of cheating on an exam and explain the economic logic of each.
2. Explain why inefficiently high amounts of cheating probably would occur if penalties were not imposed on cheaters.
3. Identify potential policies that might change the costs and benefits of cheating and explain their likely effects.

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