

Do Economists Make Bad Citizens?

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Our claim in the Spring 1993 issue of this journal was not that economics training transforms people into serial killers, but that it makes them marginally less likely to cooperate in social dilemmas. Yezer, Goldfarb and Poppen offer experimental and survey results that they believe contradict even this limited claim. For reasons we will describe, however, their results do little to alleviate our original concerns about the effect of economics training. Indeed, we find their most persuasive evidence against our hypothesis to be the gracious tone of their criticisms (which, try as we might, we could not in good conscience attribute entirely to the one Cornell-trained social psychologist in the group).

Yezer, Goldfarb and Poppen (this issue) concede at the outset that training in economics encourages the belief that people are self-interested. They add, however, that it may also encourage other beliefs of a more prosocial nature. For example, by emphasizing that voluntary transactions are mutually beneficial, it may help dispel the myth that exchange is always a zero-sum affair. We agree. But why should recognizing the existence of gains from trade imply a greater tendency to cooperate in social dilemmas? Economic theory suggests clear, but very different, expectations about gains from exchange and behavior in social dilemmas. Our paper was about behavior in social dilemmas, not voluntary market exchange.

Both our critics and we are in complete agreement about how economics training affects expectations about behavior in social dilemmas. The only real issue, then,

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is the empirical question of the extent to which this effect alters actual behavior in social dilemmas.

The Lost-Envelope Experiment

We accept the claim that the lost-envelope scenario constitutes a social dilemma of the type on which our hypothesis should bear. Although the world would be a better place if everyone returned cash-filled envelopes to their rightful owners, a self-interested finder of such an envelope can increase his or her own wealth, with virtually no chance of penalty, by simply keeping it. So if economics training fosters self-interested thinking, economics students who find cash-filled envelopes should be more likely than others to keep them.

Yet, lo and behold, Yezer, Goldfarb and Poppen discover that envelopes left in rooms about to be occupied by economics classes were marginally *more* likely than others to be returned. This is a challenging result indeed—and not just to our theory, but to theirs as well. After all, the question this experiment was intended to settle is whether economics students are *less* likely to return the letters. That they are *more* likely to do so should, if true, come as a surprise to everyone. Knowledge of potential gains from trade should not, by any reckoning, make a person more inclined to behave altruistically in this situation. On the surface, our critics appear to have uncovered a strange regularity, something akin to a ball rolling unassisted up an inclined plane.

As with any field experiment, there are many possible alternative interpretations. As noted by Yezer, Goldfarb and Poppen, perhaps upper-level economics courses, being relatively difficult, tend to screen out lazy students, who may also be less honest. A second possibility is that the envelopes left in economics classrooms may not have been picked up by economics students. After all, envelopes that are lying around in a classroom are, like envelopes generally, unlikely to contain anything of material value. In pure self-interest terms, time and effort spent investigating such envelopes is like time and effort spent prospecting for gold in New Jersey. If economics training does, in fact, reinforce self-interested behavior, economics students may simply have ignored the envelopes left in their classrooms, leaving them to be picked up by someone else.

It was precisely to rule out these kinds of alternative interpretations that we combined our own real-world study—our survey of charitable giving—with our more structured prisoner's dilemma experiments.

The Dilemma Experiments

Various social-dilemma experiments—including ours discussed in the Spring 1993 issue of this journal, the investigation by Marwell and Ames (1981) of willingness to contribute to public goods and the study by Carter and Irons (1991) in this

journal using the ultimatum game—speak with one voice. They tell us that there are large differences in cooperation rates between economics students and others. Our own studies show that these differences rise with the length of time students have been economics majors, a finding that we interpreted as weak evidence in favor of a training effect.

Yezer, Goldfarb and Poppen are quick to dismiss this evidence, saying that one learns more by watching what people do in real life than by watching how they perform in structured laboratory games. This is a curiously extreme position. Our critics are correct, of course, that lab experiments confront subjects with environments that are often different in significant ways from the ones they normally encounter. Against this disadvantage, however, laboratory experiments provide the opportunity to control incentives to a degree that cannot be matched in natural experiments and that is rarely achieved in even the most careful field experiments. What is more, the material incentives in these experiments closely mimic the material incentives found in naturally occurring social dilemmas. Finally, the experience of contributors to the vast experimental literature on social dilemmas is that subjects take their participation in these experiments *very* seriously (Dawes, 1980). We believe that, on balance, the social-dilemma experiments constitute the best available evidence on whether economics training inhibits cooperation.

We agree with Yezer, Goldfarb and Poppen that the extent to which differences in experimental cooperation rates carry over into social dilemmas in natural environments remains to be firmly established. Context surely matters. In one version of our own experiments, for example, we found that economics majors cooperated at the same rate as nonmajors if subjects were first permitted to make face-to-face promises to their partners. In naturally occurring social dilemmas, face-to-face promises are sometimes an option, sometimes not.

The Honesty Surveys

When Yezer, Goldfarb and Poppen attempted to replicate our honesty surveys, they found that, for six of eight responses in their two introductory micro classes, the average honesty scores were lower at the end of the term than at the beginning. These differences were not statistically significant, however; nor did their pattern differ significantly from the corresponding patterns for biology and psychology students. (On theoretical grounds, we would not have included biology students as a control group because the theoretical paradigm in behavioral biology stresses self-interest perhaps even more strongly than does the corresponding paradigm in economics. Thus we note with interest that the movements toward dishonest responses were larger for biologists than for others.) We concur that their survey results provide little support for our hypothesis.

Of course, our own survey results on this point were also relatively weak. In recomputing them to conform to the response measures used by Yezer, Goldfarb and Poppen (which differ from ours), we, too, find that they yield no statistically

significant support for our hypothesis. In our own data, however (and possibly also in theirs), it appears that the response measures used by Yezer, Goldfarb and Poppen may have masked a small, but statistically significant, training effect. Whereas they examined changes during the term in the *class average* honesty scores on each question, we examined changes in the *individual* scores. In particular, we matched each student's questionnaire from September with that same student's questionnaire from December. A student was coded as "less honest" on a question if his or her estimate of the probability of a cooperative action on that question declined. For each class we then reported the fraction of students who responded less honestly. We chose this procedure (which is similar to a fixed-effects model) because we felt the extreme variability in individual response measures might otherwise mask the presence of systematic training effects.

Shifts toward less-honest responses were more common than shifts in the opposite direction for each of the four questions in the micro course whose instructor stressed the competitive imperatives in social dilemmas. By contrast, more honest responses were the leading category for two of four responses in the micro course taught by the specialist in Maoist economic development, and for three of four responses of students in the astronomy course.

Yezer, Goldfarb and Poppen were correct to criticize us for not reporting significance tests for these data. We presented our results in disaggregated form in order to facilitate ease of interpretation. But because answers by the same student to different questions are not statistically independent, our format prevented us from using the distributional assumptions that underlie standard hypothesis tests.

It is possible, however, to use the following transformation of our data to generate a straightforward statistical test of our hypothesis. First we create a dummy variable that takes the value +1 if a student became more honest on a question during the term, -1 if less honest on that question, and 0 if no change. For each student, we then add these four responses, generating a sum that takes a value between -4 and +4. The mean value of this sum for the less cooperative of the two micro courses (with 48 responses) was -0.50; the corresponding mean for the astronomy course (with 30 responses) was 0.43. Using a one-tailed *F*-test, at $F(1, 76)$, this difference of 0.93 is significant at the 5 percent level.

Yezer, Goldfarb and Poppen speculate that the observed difference between these two classes may simply be a regression artifact. They note that students from the less-cooperative economics course gave "considerably" higher estimates of an honest response than did students from the astronomy class at the beginning of the semester, and therefore had more room for making a less-honest response at the semester's end. The data appear to rule out this interpretation. First, we note that the difference in the initial estimates made by the two classes was actually very small (a mean of 2.75 percent per question). To test formally for the presence of a regression effect, we added together the four estimates made by each subject at the beginning of the semester and then used this sum as a covariate in the same comparison of the mean change index described above. This analysis yields essentially the same level of statistical signifi-

cance as before (that is, the one-tailed F -test is now $F(1,76) = 3.39$, which is significant at the 5 percent level).

Statistically significant or not, the response difference for the two classes is not very large. By itself, it provides little basis for indicting introductory microeconomics as a major corrupting force. But when combined with our survey of charitable giving and the results of our prisoner's dilemma experiments—as well as parallel findings reported by Marwell and Ames (1981) and Carter and Irons (1991)—the evidence that economics training inhibits cooperation in social dilemmas remains considerable.

Is Encouraging Cynicism a Public Service?

Yezer, Goldfarb and Poppen argue that before we conclude that teaching students to expect defection in social dilemmas is a bad thing, we should first compare people's expectations with the defection rates that occur in practice. They write, "If students in economics courses learn that the world is in actuality less cooperative than they initially and incorrectly perceived it to be, then the teaching that produces this result should be viewed in a positive light." To be sure, there are costs to being overly gullible. Yet expectations that are only slightly biased in favor of cooperation may not be such a bad thing, for there is evidence that such expectations tend to be self-fulfilling. For example, Orbell and Dawes (1993) observe that people who confront social dilemmas often have the option of simply not playing; and they have found that people who elect to play are disproportionately those who expect their partners to cooperate, and who, in turn, are much more likely to cooperate themselves. By emphasizing the prevalence of opportunism, economics training may lead students not to engage, thereby relegating the fruits of cooperation to more optimistic members of the population.

It is thus by no means clear that economists do their students a favor by inculcating cynicism about the altruism of others. In fact, students who end up basing their expectations on a literal interpretation of the self-interest model are almost certainly harmed.

Concluding Remarks

We stress again that it was never our claim that even a lifetime of economics training turns people into bad citizens. In our survey of faculty members in different disciplines, for example, we found that economists were as likely as others to say they voted in presidential elections; and that, although they reported giving less to charity than others with similar incomes, the shortfall was less than 10 percent; and that, although they were more than twice as likely as members of any other group to report giving no money at all to private charity, fewer than 10 percent of economists fell in this category. Nor was it our claim that the effects of economics

training, taken as a whole, diminish social welfare. As Yezer, Goldfarb and Poppen rightly point out, training in economics has not just antisocial consequences, but also prosocial ones.

Yet surely it remains a matter of social concern if economics training inhibits cooperation in social dilemmas by even just a small degree. On the available evidence, do we have anything to worry about?

Despite the ambiguity of the dropped-letter experiment and classroom surveys reported by Yezer, Goldfarb and Poppen, three important points remain clear. First, all parties concede that economics training encourages the view that people are motivated primarily by self-interest. Second, there is clear evidence that this view leads people to expect others to defect in social dilemmas (Marwell and Ames, 1981). Third, there is also clear evidence that when people expect their partners to defect in social dilemmas, they are overwhelmingly likely to defect themselves (Frank, Gilovich and Regan, 1993, p. 167). The logical implications of these three points appear to place a heavy burden of proof on those who insist that economics training does not inhibit cooperation.

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