Economic Analysis of Social Issues v3 1st edition Grant Solutions Manual

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Chapter 1
Fundamental Concepts in Economics

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Experiment: The Ultimatum Game: Are You Generous or Greedy?

Description:

- Students are given a sum of money and asked to offer some of it to an anonymous classmate.
- If the anonymous classmate accepts the offer, the classmate receives the offer and the first student keeps the remainder.
- If the anonymous classmate rejects the offer, each receives nothing.

Learning Objective and section the activity most strongly supports:

- Learning Objective 1.3: Describe how incentives can affect behavior
- Section 1.3: Key Principle of Economics: People Respond to Incentives

Learning Goal:

- Students explore how individual incentives can be shaped by the alternatives available to others and learn that people define "fairness" in different ways.

The Ultimatum Game

Handout: Student Instructions

- In this game, your instructor will randomly pair you with a classmate. The pairings will be anonymous—no player will know who his or her partner is.
- One of the pair will be designated as the "allocator." The other will be designated as the "receiver." You will get the chance to play both roles during today's game.
- At the beginning of the game, the allocator will receive $1,000. However, there is a condition: The allocator must offer some portion of those dollars to the receiver. The allocator may offer as few as zero dollars; he may offer as many as $1,000.

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- The receiver then has a chance to either accept or reject the allocator's offer. If the offer is accepted, the receiver will receive the amount offered; the allocator will earn whatever is left over ($1,000 minus the amount offered). If the receiver rejects the allocator's offer, neither player will receive anything.
- Your instructor will outline the procedures for submitting offers.

Discussion Points

The Ultimatum Game highlights two important concepts from this chapter:

- First, the Ultimatum Game illustrates the concept of trade-offs. Consider the decisions an allocator makes: if the offer is too generous, the allocator was giving away money that he didn't have to. If the allocator offered too little, he ran the risk of having his offer rejected. So the allocator faced the question, "What is the minimum amount I must give away to convince the receiver to accept my offer?"
- Second, the Ultimatum Game illustrates just how difficult it is to pinpoint "fairness." In a student's role as receiver, she received an offer from an anonymous allocator. Chances are that the offer was greater than zero. Did each student accept what she was offered? An economist would suggest accepting any offer that makes you better off: If your allocator offers you $1, you should take it. But in the real world, someone who is randomly given $1,000 and told to offer some of it to neighbors might be expected to offer a significant share of the money or face social consequences. It can be very difficult to separate what economists consider sensible behavior from what non-economists might consider reasonable.
- People have different notions of fair. Allocators' offers and receivers' decisions may lend insight into what they consider fair. Many students may consider $500 was a fair offer; others may others might think $200 or $300 perfectly reasonable.
- However, it can be hard to discern from students' actions exactly what they believe constitutes "fair." Some of the receivers might have thought that $400 constituted a fair offer but indicated that they were willing to accept less simply because, fair or unfair, something is better than nothing. On the other side of the transaction, some of the allocators might have made offers of $500 or $600—not <u>because</u> they thought it was a fair amount but because they were worried that the receiver might reject a smaller offer. In other words, when economists observe the Ultimatum Game, sometimes the generous offers are motivated by "fear" and not by "fair."

Administrator's Guide

- This chapter's experiment is designed to show students one of the big reasons why this text downplays discussions of fairness in its treatment of various topics.
    - It does this by shedding some light on exactly how amorphous conceptions of fair are—that different people have different notions of fairness and that figuring out

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what everyone considers to be fair by observing their behavior can be quite difficult.

- This experiment also serves as a precursor to two other experiments that you may wish your students to play.
    - One, the Dictator Game, is presented in the next chapter.
    - The other experiment is a variant on the Dictator Game that is designed to shed light on exactly how altruistic humans really are.
        - That experiment is presented in the instructor's manual for Chapter 12, which discusses a phenomenon known as the Volunteer's Dilemma.

Administering the game:

- There are many ways to administer the Ultimatum Game. You might want to coordinate offers and acceptances after hours by email. You might want to have allocators write down offers that you can then anonymously communicate to randomly chosen receivers.
- But methods such as these require you to be in the middle, which is both labor intensive and slow. An easier way to administer this experiment yields results similar to those obtained in controlled experimental settings.
- First, ask each student to play the role of allocator. On a 3×5 index card that you provide, ask each student to write the following, filling in the blanks where appropriate:
    - "My name is_____, and I offer the receiver _____."
- Collect the cards, shuffle them, and place them in a stack.
- Next, ask each student to play the role of receiver. On a second 3×5 index card, ask them to write the following and fill in the blanks where appropriate:
    - "My name is _____, and the minimum offer I am willing to accept is _____."
- Collect these cards, shuffle them, and place them in a stack.
- In the first stack, you have offers. In the second, you have acceptances/rejections. Draw pairs of cards, one from each stack. Read the name of the allocator and her offer, and then read the name of the receiver and her minimum willingness to accept. If the offer is greater than the receiver's minimum, announce that the offer has been accepted. If the offer is less than the receiver's minimum, announce that both parties will receive nothing. Staple the cards together, set them aside, and repeat the process with the next cards in each stack.
- If you are teaching a large section, skip the in-class announcement of results. Instead, simply write down on the allocators' cards whether a particular offer was accepted or

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rejected and to write down on the receivers' cards whether the offer was above their minimum. The cards can then be returned to the students in a subsequent class period.

- When all the pairings have been completed, you may find it useful to calculate the average offer and the most frequently appearing offer. These can be communicated to students or held back until the Dictator Game has been completed.

Based on W. Guth, R. Schmittberger, and B. Schwarze, "An Experimental Analysis of Ultimatum Bargaining," *Journal of Economic Behavior and Organization*, 3, 367–388, 1982.

End-of-Chapter Solutions

1.1

Review Questions

1. economics

2. market

3. d

4. b

5. c

Problems and Applications

1. Pros: Markets encourage innovation by promising profits to firms that come up with better treatments; strong competition helps ensure low prices and good service. Cons: Health care is left only to those who can afford it, which is not equitable. Also, the government can, if it chooses, command the huge resources necessary to solve big health problems.

2. The draft represents the command system of marshaling resources. That may be necessary because many people—perhaps too many people—would like to avoid high-risk activities like combat at a time when combat is very likely. That, in turn, may make it harder to win wars.

3. There are dozens of decisions made in households—from what's for dinner to where the kids will go to college. Some are made by voting (like, perhaps, where to go for dinner); others are made by command (say, "You're going to school today even though you don't want to.").

4. Government was facing a large and urgent crisis. With its financial resources and available manpower, it was much easier for government to address that crisis than relying on private pharmacies and clinics to distribute the vaccine. Government was able to coordinate reliable access along with prioritization (in the beginning of the crisis, not everyone was eligible to receive the vaccine. Government was also more able to manage the logistics needed to deliver large quantities of vaccines to large numbers of individuals in a short period of time.

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5. This is a mixed-economy solution in which private firms developed the vaccines utilizing the resources of the government to develop, test, and scale up production of the vaccine. This allowed for speedier deployment, but also resulted in some waste of resources (several companies that had received large subsidies eventually abandoned their efforts, even while others were showing success.

1.2

Review Questions

1. Scarcity
2. opportunity cost (implicit cost acceptable)
3. explicit
4. a
5. b
6. c
7. d
8. a

Problems and Applications

1. List some explicit costs: tuition, books, lab fees. Don't include housing/food if you would be purchasing housing/food anyway. Then, list implicit costs: For many of you, the opportunity cost of attending college might be working at a good full-time job; you can calculate the value of that opportunity loss by adding up your salary over the four years you will be in college.
2. Governments could save lives by quarantining and isolating individuals. But that comes at the opportunity cost of what those individuals might have produced had they gone to work. That reduced the individuals' prosperity and the prosperity of the nation as a whole. The trade-off was unavoidable, which highlights the importance of being able to value human life in dollar terms.
3. China chose to focus on the short run, locking down individuals living in hot zones to contain COVID's spread. But that commitment had no explicit end, and without any natural exposure, China's population remained vulnerable to rapid transmission long after other nations had resumed life as normal and had acquired some natural immunity. As a result, China paid long-term costs for its short-term focus.
4. It's hard to place a dollar value on implicit costs, like the inconvenience of masking or the cost of losing time with family and friends due to lockdown. It's also true that some people placed higher value on individual freedom, while others placed higher value on the public health benefits of reduced transmission. In all cases, though, those values were subjective, and because they varied from individual to individual, they were hard to measure. If they can't be measured well, and it's equally hard to value human life, then evaluating the tradeoffs is difficult.

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5. The big trade-off is between right to privacy (which is a benefit we all enjoy) with greater security—particularly from terrorist threats (which we also benefit from).

6. As of this writing, "Despacito" has been viewed 8.3 billion times. The video is 4:41 long. That means that viewers have spent about 38,678,000,000 minutes watching this video. That's equivalent to about 644 million hours. If the Empire State building took about 7,000,000 hours to complete, then the opportunity cost of "Despacito" is 644 million ÷ 7 million = 92 Empire State Buildings.

7. The federal government could use that money for education, for its new space force, to provide internet access to remote and rural areas. It could use that money to build about 2 aircraft carriers, or to build health care clinics. The possibilities are endless.

8. The immediate tradeoff is between losing Mary Jane (whom he loves) and a greater number of anonymous children. The long-term tradeoff is that by becoming a superhero, he's saved many but also exposed those he loves to risks like the one Mary Jane faces.

9. The costs of lockdowns eventually became intolerable, both to the individuals being locked down, and to the Chinese economy. The loss of individual mobility was also fueling protests against the policy that were threatening to the power of the government. As a result, the government largely abandoned its system, choosing to bear the cost of sicknesses, treatment, and death rather than the continued costs of lockdowns with no foreseeable end date.

1.3

Review Questions

1. d

2. c

3. b

Problems and Applications

1. It makes larger homes (with correspondingly bigger mortgages) look more affordable and provides an incentive to buy/build a bigger home than you otherwise would.

2. Artificially cheap food means that consumers can (and will) buy more than they would have if food were not subsidized. Thus, waistlines expand.

3. The government can either increase the cost of driving or increase the benefits of driving less. To raise the cost of driving, government might tax gasoline. Or it could punish people who drive more than a set amount with a fine (perhaps requiring a regular odometer check.) To increase the benefits of driving less, it could pay people who reduce their driving—perhaps again requiring an annual odometer check. Of these solutions, the gas tax is probably the easiest to implement.

4. People would, in the future, be reluctant to accumulate wealth for fear of losing it again. They would spend down their wealth instead. This would likely harm saving, making less money available to borrow for houses or businesses.

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5. Impose costs if she doesn't clean her room (ground her!) or confer benefits if she does clean her room (take her out for ice cream!).

6. This was designed to increase the benefits of getting vaccinated. It worked in some instances, but some people didn't believe the chance to win a large cash prize outweighed the potential costs of being vaccinated.

7. The possibility that student loans might be forgiven reduces the cost of borrowing for college and should spur enrollment rates.

8. Older residents were more vulnerable to the virus, so the cost of not being vaccinated was higher (or the benefits of receiving the vaccine were greater). The young proved most resilient to the virus; not surprisingly, their vaccination rates were the lowest.

9. The FDA's testing and evaluation takes time. Suppose an effective drug is created that proves perfectly safe. During the testing phase, people continue to suffer or die that could have been helped by the drug. This is why the FDA sometimes grants compassionate access to certain individuals—it lets those in dire need (who are in danger of dying, typically) take drugs before testing is complete and the drugs have been proven safe.

1.4

Review Questions

4.1 collective action

4.2 b

Problems and Applications

1. Everybody wants the elevator fixed, but nobody wants to pay for it themselves. People on the first few floors can get by without an elevator, but people on Floor 40 must have one. The real-world solution is to create a condominium association that charges a regular maintenance fee and pay for the elevator repair out of those fees. An alternative solution can be found in the former Soviet republic of Georgia: There, buildings have pay elevators that charge residents a particular amount per floor; the fees collected are used to pay for repairs.

2. Students will likely fill out their papers, regardless. That's because each may fear a hyper-competitive student who answers his exam in hopes of getting an A while screwing his classmates. Or it may happen because your fellow students fear that not everybody understands the plan or that not everyone may have been paying attention. If you think even one student will fill something out, you have to fill something out, too, or risk getting a zero. In the end, students all fill out exams (soaking up resources) to get the same grade (or worse) they would have gotten if they had all left their papers blank.

3. The goal for the group is to make lots of money moving cargo quickly. But any one individual can't make the boat move much faster, and let's face it: hard work is hard. So individual boatmen have an incentive to pull less hard than they can, leaving the others to keep the cargo moving. If they all do this (and they all have an incentive to do this), then it takes longer to deliver the cargo and everyone on the team makes less.

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4. Put yourself in one player's shoes. If your opponent splits, you can double your take by stealing. If your opponent steals, you were going to lose no matter what; stealing yourself imposes no penalty. But, since both players face the same individual incentives, both will steal; each walks away with nothing. If they could agree to cooperate, then both would split the pot and be better off (the preferred social outcome).

1.5

Review Questions

1. normative

2. benevolent social planner

3. d

4. c

5. a

Problems and Applications

1. That decision was based on normative economics. Unemployment means idle resources and reduced wealth. Government made an explicit choice to make society poorer overall because it believed that people who are working should make a livable wage.

2. The BSP would probably not support this scheme. Lots of people would spend time waiting in line, which is wasteful. Perhaps more important, the hams would go to the first 100 people, not necessarily the 100 people that like ham the most.

3. This reduces the time spent waiting in line but does not eliminate the possibility that the hams would go to people who didn't value them very highly.

4. The steel tariff will make steelworkers better off, but buyers of steel (including manufacturers) worse off. Do the gains to the steelworkers (and their company) outweigh the losses to steel buyers? If so, on net, the policy is beneficial to society. If not, then the policy makes society poorer. The BSP would need to be able to quantify the gains to steelworkers and steel companies, including how many jobs created and how much those workers would be paid. The BSP would also need to know how much steel buyers wanted, and how much extra they would have to pay as a result of the policy.

5. The individuals might have different things they like—the size of a slice, more frosting; the crusty bits on the outside of the cake, more chocolate chunks inside the cake, etc. Fairly dividing the cake means balancing all of these criteria for all of the potential recipients so that every cake slice appears identical to all participants. The unexpressed, but important desires, are critical to accomplishing this.

6. Answers vary by state, but often doses went to the elderly first, critical workers (health care, teachers) second, and so on. This system allocated vaccines to the most vulnerable. Another possibility would have been to allocate doses to the people most likely to *spread* the virus, which would mean prioritizing the young. The market system would have allocated the vaccine to those most willing to pay (and willing to pay the most!). That

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could end up allocating vaccines to those who value them most . . . except that some who value it highly might not have had much money. Given the trade-offs, it is very hard to come up with a scheme the BSP would definitively prefer above all others.

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