Economics 11th edition Colander Solutions Manual

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CHAPTER 1: ECONOMICS AND ECONOMIC REASONING

Questions and Exercises

1. Coordination refers to how the three central problems facing any economy are solved. Those three problems are what and how much to produce, how to produce, and for whom to produce. Inevitably, individuals desire more than is available in light of how much they're willing to work, causing a problem of scarcity.

   The concept of scarcity has two elements: our wants and our means of fulfilling those wants. Those two elements are interrelated since wants are changeable and are partially determined by society and the means of fulfilling those wants. In addition, the degree of scarcity is constantly changing, depending on the available means of production and the development of new wants.

   Therefore, the author of the textbook focused on coordination instead of scarcity to emphasize the subsidiary nature of scarcity to the overall concept of coordination. Economics is not merely about our wants or the means of fulfilling those wants; it is also about reconciling our wants with reality, where reality consists of decision-making mechanisms, social customs, and political realities.

2. a. Macroeconomic
   b. Microeconomic
   c. Macroeconomic
   d. Microeconomic
   e. Microeconomic
   f. Microeconomic

   Microeconomics studies how economic forces influence individual choices such as the pricing policies of firms, households' decisions on what to buy, and how markets allocate resources among alternative ends. Macroeconomics studies aggregate relationships such as how household consumption is related to income and how government policies can affect growth.

3. Answers will differ. Two microeconomic problems are the pricing policies of firms (price-fixing in particular) and the way wages are determined in labor markets. (Why do athletes and celebrities make so much money, anyway?) Two macroeconomic problems are unemployment and inflation (business cycles and growth are also macroeconomic problems).

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4. a. The opportunity cost of attending college is the sacrifice one must make by attending college. It can be estimated by figuring out the benefit of the next-best alternative. If that alternative is working, one would guess the likely wage that could be earned at a job that does not require a college degree and then multiply by 40 hours for each week in college. The opportunity cost is also what could be done with the money used for tuition and other costs related to attending college.

   b. The opportunity cost of taking a course could also be estimated using the same technique as in part *a* if you otherwise would be working during these hours. If you had taken another course instead, the opportunity cost would be the benefit you would have received from taking that other course.

   c. The opportunity cost of attending yesterday's lecture would depend on what you otherwise could have done with that time (sleep, eat lunch with an interesting person, etc.). Although this is no longer a choice to you, past activities do have opportunity costs.

5. Answers will vary. A correct answer will indicate that the student compared the marginal costs and benefits and chose the activity because the marginal benefit exceeded the marginal cost.

6. The marginal costs are the additional costs of the additional activity. In this case, the additional activity is driving (200 – 100) miles. The marginal cost is the 10 cents per mile for all miles over 100 plus the additional cost of gas. Therefore, the marginal cost is \$10.00 [0.10 × (200 – 100)] plus the cost of gas. The initial payment can be forgotten because it is a sunk cost; it is not part of the marginal costs.

7. No, since the marginal cost of drug control exceeds the marginal benefit; the government should not spend \$4,170 to deter one person from using drugs.

8. The opportunity cost of buying a \$20,000 car is the benefit you would have gained by using that \$20,000 for the next-best alternative, which could be spending it on other goods and services or saving it.

9. Only the marginal costs and benefits of taking the job are relevant. That means that the sunk cost of the bachelor's degree is irrelevant. Therefore, the relevant costs are the opportunity cost of taking the job (forgone earnings from your current job) and other things you could have done with the money you need to

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pay for business school. The relevant benefit is the increased lifetime earnings of $600,000.

10. You should spend the $5 million on projects that provide the highest marginal benefit per dollar spent. The opportunity cost of spending the money on one project is the lost benefit that the college would have received by spending it on a different project. Thus, another way to restate the decision rule is to spend the money on the project that minimizes opportunity cost per dollar.

11. Answers will differ. Two examples of social forces are our unwillingness to charge friends interest and our unwillingness to "buy" friends. These issues are still subject to economic forces; however, there is no market in "friends" or in loans to friends, and so the economic force does not become a market force.

12. Answers will differ. Two examples of political or legal forces are rent control laws and restrictions on immigration. Both prevent the invisible hand from working. Rent control laws place a price ceiling on rent, causing shortages of apartments, and immigration restrictions cause the number of immigrants seeking entry to exceed the number allowed to enter, which tends to cause wage rates to differ among countries.

13. a. Both parties benefit. The person who gains the kidney benefits if it works when transplanted into his or her body as he or she will no longer have the emotional and financial burden of dialysis. The person selling the kidney gains the $30,000. Their gains will also have impacts on others (their family, for example).

b. Both parties must undergo surgery and face all the attendant risks and costs. The seller faces the potential cost of a future illness or injury harming his or her only remaining kidney, causing the seller to need dialysis. It raises moral issues that could be seen as hurting society because organs change from being inalienable to being a commodity and, hence, is another element that negatively affects the individuals.

c. Whether a society should allow this transaction is a question of value judgments and cultural norms. Our society has chosen not to allow such transactions because (among other reasons) those with more money would have increased access to organs and therefore would have advantages over those of limited means. Thus, the poor could be exploited in such transactions.

14. An economic model is a framework that places the generalized insights of a theory in a more specific contextual setting. Policymakers need to understand the

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empirical evidence supporting the theory as well as real-world economic institutions to make policy recommendations.

15. No. Economic theory proves nothing about what system is best. It simply provides a way to look at systems and indicates what the advantages and disadvantages of various systems will likely be. Normative decisions about what is best can only follow from one's value judgments, which are subjective.

16. A theorem is a proposition that is logically true based on the assumptions of the model, whereas a precept is a policy rule that a particular course of action is preferable. Economists can agree about theorems but disagree about precepts if they have different value judgments regarding the intended goals.

17. A normative statement reflects ethical judgments about what should be. It reflects values and is subjective. A positive statement refers to a fact or a logical relationship. It is in principle testable or is the result of logic analysis. Positive statements of facts are not subject to debate among individuals. The art of economics refers to issues of judgment on how to achieve the goals determined in normative economics, giving the facts and logical relationships one finds in positive economics. Art of economics statements are subject to debate.

18. a. Positive statement, since it is a statement of fact.

    b. Normative economics, since it deals with what the goals of the economy should be and is subjective.

    c. Since this is relating a normative goal to a decision, this could be a statement in the art of economics. It could also be seen as a normative statement if one interprets it as a normative imperative.

    d. Positive statement, since it is a statement of fact.

Questions from Alternative Perspectives

1. *Austrian*

   Most economists would answer "yes" because they see economic variables such as unemployment as objective measures, which make them available as measures for planning. Most economists see only individual preferences, not social preferences, as subjective. Austrians believe in a radical subjectivity, uncertainty with respect to time, knowledge, and matters beyond preferences. This eliminates

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the possibility of using objective economic analysis as the basis for government planning. For an Austrian study on the nature of time and uncertainty for economics, see the work of Mario Rizzo and Gerald O'Driscoll, Jr.

2. *Religious*

   a. The rational choice model assumes that individuals are one-dimensional, that they know what they want, and that they will do what is in their best interest. Addictive behavior undermines that assumption, leading to a conflict between passion and reason.

   b. The conflict suggests that we have to be careful not to apply the economic model in cases in which that conflict is important, such as with behaviors that have addictive elements. When there is a conflict between passion and reason, there may be greater reason for government to limit access to the addictive good or behavior.

3. *Feminist*

   a. Patriarchy is a social institution in which men exercise a disproportionate amount of social power and are in a position to define the roles of women and children. Because patriarchy affects the way people behave and interact, it is an institution. Gender affects the labor market because those who are in power will make hiring decisions that perpetuate their position of power. For example, husbands and fathers may make, or heavily influence, the decisions of whether a woman will look for work.

   b. Some economists might argue that men and women are merely expressing their preferences in job choices, whereas feminist economists might argue that these choices are culturally determined by institutions, or patterns of behavior, such as the patriarchy. It is impossible to separate the market from the institutions within which they are embedded. The free market may not determine the institutions or mores of a society, but it nevertheless operates within those institutions.

4. *Institutionalist*

   a. A free market outcome would provide flu vaccine to those willing and able to pay the most for it, which probably would not include all of those given priority under the rationing scheme.

   b. The determination of which option is "just" requires delving into theories of justice. The free market solution best mirrors commutative justice—one based on efficiency of exchange— and the rationing scheme best mirrors distributive

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justice—one based on some notion of fairness that favors those with a greater predisposition to illness.

5. *Post-Keynesian*

   a. This answer will differ among students, but should include an assessment of the marginal benefits incurred between various institutions.

   b. Most students probably will answer this question "no." The standard theory presented in the book is based on the assumption that decision makers have full information about all factors that might influence their decisions: They have substantive knowledge of all possible outcomes of their decision making and the consequences of each decision. Most likely you had limited knowledge of the pros and cons of the schools you were considering when deciding which college to attend. As a result, you probably turned to the advice and norms of a small group of friends, family members, or teachers to help you make a decision.

   c. Recognizing that you have limited time, knowledge, and ability to compute all the possible outcomes of each economic decision, you probably rely on social norms and rules of thumb to help you make many of your economic decisions. For example, when you go to the grocery store, you may continue to buy Diet Coke even though other diet sodas might provide you with a higher level of satisfaction at a lower price because you are in the habit of buying Diet Coke and uncertain of the exact benefit you'll incur from other diet beverages.

   d. The implication of this behavior is that individuals do not follow the economic decision rule of gaining complete information to optimize their choices but rely on rules of thumb or habit to come up with a satisfactory outcome even though it might not be the most optimizing. This means that economic analysis, which assumes that humans are one-dimensional rational beings who calculate all relevant marginal costs and benefits, is limited.

6. *Radical*

   a. It implies that there is no clear-cut distinction between positive and normative economics and that seemingly positive economics has implicit value judgments hidden within it.

   b. Economics is value-laden. The relevant question about whether the distinction is tenable is whether it is relatively less value-laden than the alternatives. That is an open question.

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Issues to Ponder

1. Regretting a decision doesn't necessarily mean that we did not use the economic decision rule when making that decision. The economic decision rule infers that the individual has perfect information, which is an idealization of the reality of decision-making. At the time the decision was made, we weighed the marginal costs and marginal benefits, undertaking the activity if the marginal benefit exceeded the marginal cost and not undertaking the activity if the marginal cost exceeded the marginal benefit. Many decisions are made without knowledge of the full marginal costs and marginal benefits. Sometimes these marginal costs and marginal benefits are revealed at a later date, making us regret the initial decision. An example is going out to a restaurant. From recommendations, we form an expectation about the marginal benefit. If that recommendation overstates our actual experience, we will have overestimated the marginal benefit of eating out. We may regret having spent the money to eat out.

2. a. It depends on the perspectives used to answer the question. From a purely economic perspective, we would conclude that it is reasonable to execute hackers based on cost/benefit analysis. However, since this decision can by no means be simplified to pure economics, we need to take into consideration social, political, and religious factors. Therefore, Landsburg's argument should be evaluated in a more holistic context.

   b. Cost/benefit analysis can be extended to many areas, such as social welfare programs and almost all the policy discussions. (Source: "Feed the Worms Who Write the Worms to the Worms," http://slate.com/id/2101297/), *Slate Magazine*, May 26, 2004.)

3. The *Theory of Moral Sentiments* emphasizes the importance of morality. The invisible hand directs people's selfish desires (tempered by the social and political forces) to the welfare of society, but is based on certain presuppositions about the morality of individuals which constrains individuals' selfish actions. What Smith is suggesting is that the way individuals calculate marginal cost and marginal benefit must be interpreted within a social context.

4. a. & b. Parts *a* and *b* have no "right" answers. Most people would say "no" to *a* and "yes" to *b*. If one were answering this question from the perspective of the economic decision rule alone, one would measure the marginal benefits against the marginal costs of the choice.

   c. People tend to believe that children should be afforded greater protection than is afforded to adults and are therefore repelled by the idea of sacrificing a child even

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though it would save the lives of other children. Sick people are closer to death, and therefore their lives tend to be valued less.

d. Brain imaging suggests that the moral sense behind one's answers does not come from rational thought, but instead from emotional, gut responses. This suggests that a kind of moral intuition exists that is quite separate from reason. If that is the case, opportunity costs were not central to the decision. It was a moral, not an economic, decision. Opinions among philosophers and economists differ on this issue.

5. a. It depends. On the basis of cost/benefit analysis, one could figure out cases in which most people would say that they should be dishonest, but cost/benefit analysis is not the final arbiter if you believe that dishonesty is wrong. Additionally, you should consider the social implications of dishonesty, as your reputation and future interactions may be impacted.

b. You can make yourself more believable by developing a reputation for honesty. Developing such a reputation usually has a cost because it requires you to be honest even when others might be dishonest. To encourage the other person to tell the truth, you could use economic incentives.

6. a. Answers will vary.

b. Economic theory says that prices are determined by supply and demand, but businesses often use cost-plus-markup rules, or rules of thumb, to set their prices. If two firms have different costs of supplying the same item, they probably will set different prices for that item. People might be willing to pay the higher price if the store is closer to where they live or simply to support a smaller, local store.

c. Again, answers will vary, but the reasoning is the same as in part *b*.

7. It depends on the perspective one takes. It is economically reasonable to legalize organ sales. But from a moral perspective, organ sales may be unethical, and poorer people might feel compelled to sell their organs to support their family, a result that many people would find morally reprehensible. Economics has nothing definitive to say on normative moral issues such as this.

8. Answers will vary. Here is an example: Banks are economic institutions. They take a cost/benefit approach to deciding to whom to give loans, and they influence decision making by allowing individuals to spend more money than they earn or have as wealth.

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9. a. This is a matter of personal views; there are arguments for and against it. An argument against the practice is that wealthy songwriters would have too much power in promoting their songs. The songs of the songwriters who can afford to share profits will get more play time and become even more famous to the detriment of new entrants into the industry. Arguments for this practice are that it could be used to offset racism as in the example given and, to the extent that new songwriters have the capability of offering such royalty share, promote new kinds of music.

   b. The royalty payment gave Freed a strong incentive to choose what he considered the best song and to promote that song heavily. The flat payment would have just given him an incentive to play any song and no long-term interest in whether the song succeeded or failed.

   c. Answers will vary. Here are a few examples: Product placement in movies is legal, as are free newspapers to professors for getting a class to use the newspaper. Direct payments to doctors for prescribing a particular type of drug are illegal, although taking doctors to lunch is not.

10. Three ways (among many) that dormitory rooms could be rationed are administrative decree, lottery, and a market system. In the first, individual behavior would be forced to fit the will of the administrator. Individuals probably would complain and try to influence the administrator's decision. Because administrative decree is not necessarily an efficient system, some people probably would attempt to trade rooms after the allocation. In the second, individual behavior would be forced to fit the luck of the draw; individuals probably would attempt to trade rooms after the draw. In the final example, individual behavior would have already been subject to economic forces, and thus, there would be no tendency to trade after one has "bought" the room one can afford.

11. It suggests that policy should be willing to give up more in possible gains to avoid losses than otherwise would be the case. Economic policies should be risk-averse—more committed to maintaining the current standard of living than to risking economic losses by trying to improve it. Another possible policy response would be to offset this tendency by making gains more salient than losses.

12. A good economist always tries to be objective. However, no one can ever be completely objective. Sometimes the best we can hope for is an awareness of the cultural norms and value judgments that influence our views and decisions. Additionally, many policy issues (such as organ markets and minimum wage laws) probably should not be approved in a purely objective way, since they also have moral and social implications.

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13. “Letting the data speak” means using computer power to finds patterns in data. As computational methods have improved exponentially, the patterns that computers find are more robust and useful in finding patterns. So the reason modern economists are more likely to let the data speak is due to technological change in computational methods.

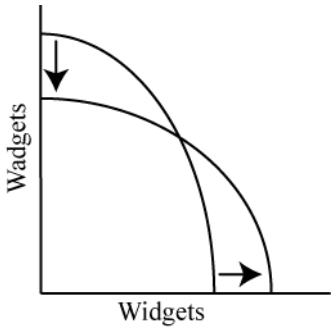
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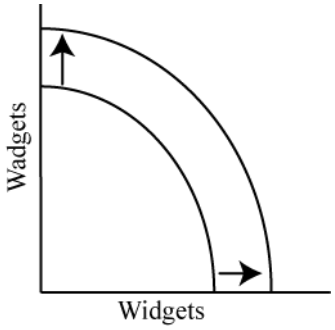
CHAPTER 2: THE PRODUCTION POSSIBILITY MODEL, TRADE, AND GLOBALIZATION

Questions and Exercises

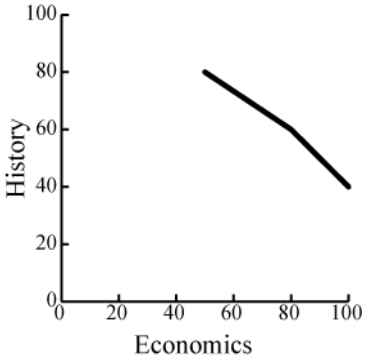
1. In the figure to the right, wadget production is measured on the vertical axis and widget production is measured on the horizontal axis. If the society becomes more productive in its output of widgets, it can produce more of them, and the end point of the curve on the horizontal axis will move to the right, as shown. If the society is also less productive in its production of wadgets, the end point on the vertical axis will move down, as shown. The result is a new production possibility curve.



2. If a society became equally more productive in the production of both widgets and wadgets, the production possibility curve would shift out to the right as shown in the accompanying graph.



3. Any production possibility curve that shows the principle of rising trade-off must be bowed out. The accompanying grade production possibility curve embodies the principle of rising trade off. The table is presented below. Notice that for each 20-point gain in the History grade the amount of points lost on the Economics grade steadily increases.



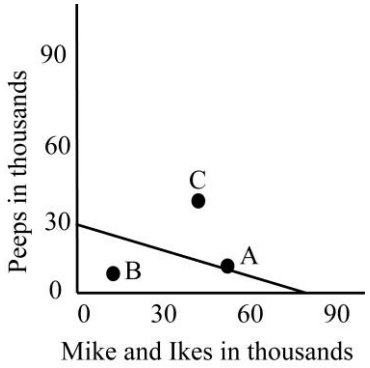
History	Economics
40	100
60	80
80	50

4. a. In order to produce one more Peep, JustBorn must give up 3 Mike and Ikes. Hence, the trade-off for 1 Peep is 3 Mike and Ikes. The trade-off for one Mike and Ike is 1/3 of a peep.

   b. See the accompanying graph.

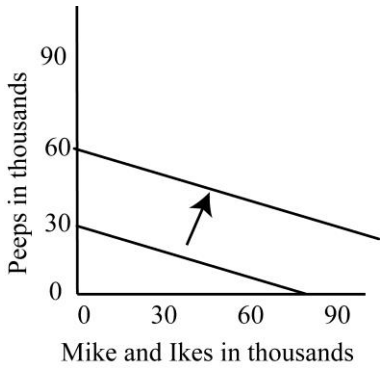
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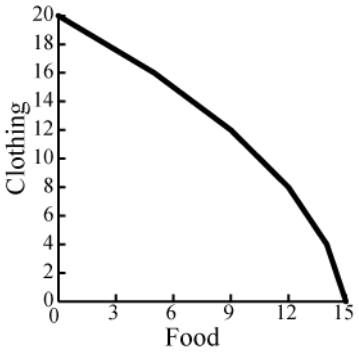
c. Point A is efficient. Point B is inefficient. Point C is impossible.

d. See the accompanying graph



5. The theory of comparative advantage underlies the shape of the production possibility curve. By taking advantage of each person's comparative advantage, higher total output can be reached than if each produced all goods on his or her own, or if each produced goods for which he or she did not have a comparative advantage. As more and more of a good is produced, resources that have less of a comparative advantage are brought into the production of a good, causing the production possibility curve to be bowed outward.

6. a. See the accompanying graph.



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b. As the output of food increases, the trade-off between food and clothing increases. To illustrate, giving up 4 units of clothing (from 20 to 16) results in a gain of 5 units of food (from 0 to 5), but giving up another 4 units of clothing (from 16 to 12) results in a gain of 4 units of food (from 5 to 9), and this pattern continues.

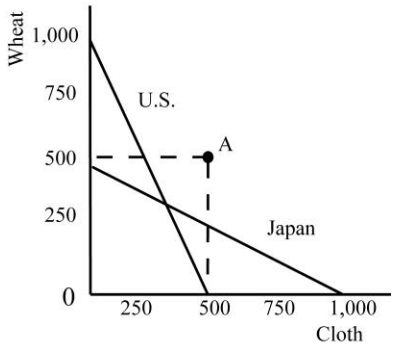
c. If the country gets better at producing food, the place where the production possibility curve intersects the horizontal axis will move to the right.

d. If the country gets equally better at producing food and clothing, the production possibility curve will shift out along both axes by the same proportion.

7. There are no gains from trade when neither of two countries has a comparative advantage in either of two goods.

8. The fact that the production possibility model tells us that trade is good does not mean that in the real world, free trade is the best policy. The production possibility model does not take into account the importance of institutions and government in trade. For example, the model does not take into account externalities associated with some trades, the provision of public goods, or the need for a stable set of institutions or rules. The production possibility model shows maximum total output, but that is not the only societal goal to take into account when formulating policy.

9. a. See the accompanying graph.



b. The United States has a comparative advantage in the production of wheat because it can produce 2 additional tons of wheat for every 1 fewer bolt of cloth while Japan can produce 1 additional ton of wheat for every 2 fewer bolts of cloth. Japan has a comparative advantage in producing cloth.

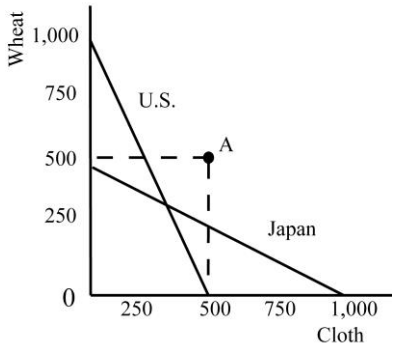
c. The United States should trade wheat to Japan in return for bolts of cloth. One possibility is that the United States produces 1,000 tons of wheat and Japan produces 1,000 bolts of cloth and they divide total production equally. Both get

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500 tons of wheat and 500 yards of cloth. Both end up with more of each good. (Note: Other combinations are possible.)

d. See the accompanying graph. Point A is the bundle of goods each country will be able to consume. Because point A is outside the production possibility curve for each country, trade clearly benefits both countries.



10. Globalization increases competition by allowing greater specialization and division of labor. Because companies can move operations to countries with a comparative advantage, they can lower production costs and increase competitive pressures. The decreased importance of geographical location increases the size of potential markets, increasing the number of suppliers in each market and thus increasing competition.

11. The law of one price rules, meaning that U.S. wages can only exceed foreign wages to the degree that U.S. workers are more productive than foreign workers. The adjustments, therefore, that will need to occur will equalize wage rates. So, either Western nominal wages will grow slowly and foreign nominal wages will grow rapidly and catch up or U.S. exchange rates will decline to equalize wages. Some combination of the two is most likely. It is possible that there will develop areas of production/services that will allow U.S. wages to remain high.

12. The law of one price states that wages of workers in one country will not differ significantly from wages of (equal) workers in another institutionally similar country. As the world is globalizing, the law of one price causes firms to hire workers in other countries. Because wages adjusted for productivity differences are lower in other countries, firms choose to use workers in foreign countries. As they do so, wages will be bid up until wages, adjusted for productivity differences, are equal between the two countries.

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Questions from Alternative Perspectives

1. *Austrian*
   In a market economy competition the market process translates individual actions into actions that are good for society. There is no such mechanism for government; government has a monopoly on power, which allows individuals in government to use that monopoly to achieve their ends, which may not be "good" ends. This monopoly on power makes government less reliable than the market to do good, since the government is not subject to entry and exit as firms are in the market. Also, whether or not every individual voice is taken into account depends on the government system, while the market will always include any individual's voice by either their entry or exit.

2. *Religious*
   a. Most people would say that while it might be a component of the goals of society, it is not "the" goal of society. Other goals might include virtues such as kindness and generosity.

   b. If a country is Christian, maximizing output probably should not be "the" goal of society.

   c. In a Christian society the paramount goal would be to discern and fulfill the will of God.

3. *Feminist*

   a. Companies definitely think that sex sells products. Just look at the cover of any number of magazines.

   b. Sex is used in the advertising of numerous products.

   c. All people are subject to abuse by advertising, but women are more likely to be portrayed as objects instead of people, and are therefore at greater risk of exploitation.

   d. While men and women may both be used in advertising, many times men are shown to be in a dominant position of power, while women are shown in subordinate positions.

4. *Institutionalist*

   a. Back in the 1950s President Eisenhower warned of the military/industrial complex, which maintains all types of military spending on projects so that they

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continue to generate jobs for those areas. Senators with power on the appropriations committee inevitably have larger defense expenditures in their districts than senators not on the appropriations committee. This high spending on military production results in a trade-off. It means that there is less money to spend on consumer goods, leading to a lower production of consumer goods.

b. The short-term consequence is a loss in consumer goods. The long-term consequences are potentially much more serious, because in order for the military to justify the expenditures, wars are necessary; thus the production of military goods over consumer goods can increase the probability of wars. Some argue that the 2003 Iraq war is an example, because Halliburton benefited from it, and the former head of Halliburton, Vice President Cheney, leading the group pushed for U.S. entrance into the war.

5. *Radical*

a. Yes, not only does technology still have such effects, those effects on our lives seem to be increasing in some areas. While technology has freed us from some arduous jobs, it has also eliminated jobs that gave meaning to people's lives. Technology is leading to more and more specialization in the methods of production to include more and more computational work. This is making more and more jobs that we used to consider desirable human jobs done by technology. So the job becomes designing the technology to do the job, not doing the job.

In modern society technology is replacing many human activities that were called work with activities associated with computers. Today computers can design buildings, diagnose medical problems, drive cars, and many more tasks. This is reducing the types of labor that are needed. The type of labor that is needed now is much more involved with software design. Many other types of labor, such as physical labor, or quasi-skilled labor are being replaced. If work were only something to be avoided, this might be without cost and an overall benefit to society. But it misses the broader issue of what the purpose of life it. As Ralph Waldo Emerson said, "The purpose of life is not to be happy. It is to be useful, to be honorable, to be compassionate, to have it make some difference that you have lived and lived well." All too often economic models miss these broader fundamental cultural issues, and miss the point that technological change is making it harder for many to find that purpose. It makes them redundant to society.

b. When making policy decisions, society must take into account not only what is produced, but the methods and means of production.

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Issues to Ponder

1. This statement can be true or false depending on the implicit assumptions made in the analysis. It is true given that individuals will eliminate all inefficiencies they see through trading. It might be false if not everyone knows all the benefits and the inefficiencies, or does not have the opportunity to correct the inefficiencies, or if the costs of eliminating the inefficiency are too high.

2. If achieving a particular distribution of income is one of society's goals, a particular production technique that leads to greater output might be considered an inefficient method of production if it, also leads to a less desirable distribution of income. Remember, efficiency is achieving a goal as cheaply as possible. Maximizing output is not the only goal of a society.

3. a. From the numbers alone, one would choose not to work because the opportunity cost of working is giving up an $80,000 increase in lifetime income while the benefit is $32,000 of income now. Although there is a correlation between working time and GPA, we cannot conclude that working an after-school job causes the decrease in GPA. Therefore one might be able to maintain a decent GPA while working. Moreover, earning money might be the priority for a particular student to reach another goal, such as saving for college that will lead to even greater lifetime earnings.

   b. It depends on the particular student. Working takes time from study and thus might be a reason for the decrease in GPA. But the situation varies from student to student. In some cases, work experience may complement what is learned in class and can lead to higher grades.

4. The fact that lawns occupy more land in the United States than any single crop does not mean that the United States is operating inefficiently. Although the cost of enjoying lawns is not included in GDP, lawns are nevertheless produced consumption goods and are included in the production possibility curve for the United States. The high proportion of land devoted to lawns implies that the United States has sufficient food that it can devote a fair amount of land to the production of goods for enjoyment such as lawns.

5. Following the hint that society's production possibility curve reflects more than just technical relationships, we realize that trust is an input to production to the extent that it is necessary for transactions. If everyone could fake honesty, the production possibility curve would shift inward since no one could trust anyone else leading to the disintegration of markets. If some could fake honesty, those few will gain at the expense of others.

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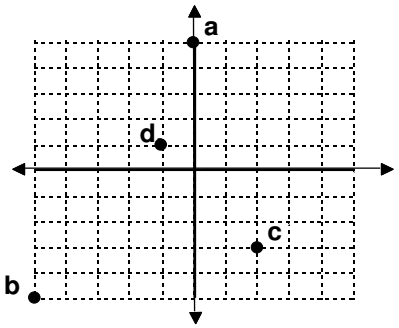
6. a. Firms may produce in Germany, because (1) transportation costs to/from the other countries may be very high, so that if these costs are included, it would not be efficient to produce there; (2) there might be tariffs or quotas for imports into Germany that will prevent producing elsewhere; (3) the productivity of German labor may be so much higher that unit labor costs in Germany are the lowest; and (4) historical circumstances may have led to production in Germany and the cost of moving production may exceed potential gains.

   b. There would probably not be a significant movement of workers right away. One would expect some movement from Greece and Italy into Germany, but this is limited by social restrictions such as language, culture and the economic climate in Germany, which currently has high unemployment. Movement in the long run, however, may be substantial.

   c. I would want to know about the rule of law in Thailand that will govern business practices, the stability of the government, and the infrastructure. All of these will affect the costs of production.

CHAPTER 2 APPENDIX: GRAPHISH: THE LANGUAGE OF GRAPHS

1. See the accompanying graph.

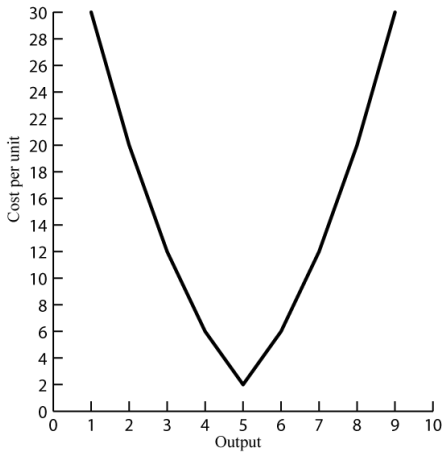


2. See the accompanying graph.
   a. The relationship is nonlinear because it is curved, not straight.

   b. From 0 to 5, cost declines as quantity rises (inverse relationship). From 5 to 10, cost rises as quantity rises (direct relationship).

   c. From 0 to 5, the slope is negative (slopes down). From 5 to 10, the slope is positive (slopes up).

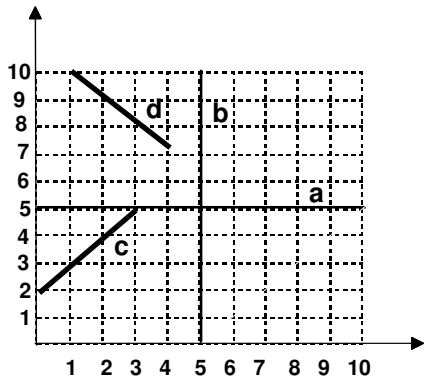
   d. The slope between 1 and 2 units is the change in cost (30-20) divided by the change in quantity (1 - 2), or -10.



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3. See the accompanying graph.



4. a. 1

   b. -3

   c. 1/3

   d. -3/4

   e. 0

5. a. C

   b. A and E

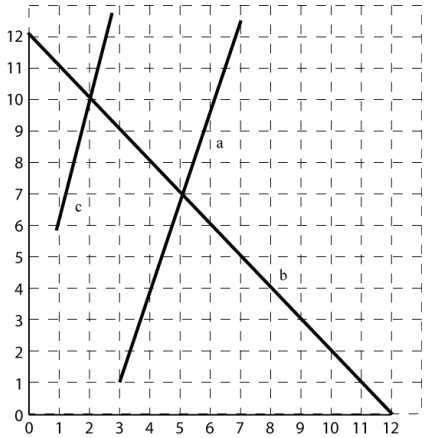
   c. B and D

   d. B is a local maximum; D is a local minimum.

6. a. See line a in the accompanying graph.

   b. See line b in the accompanying graph.

   c. See line c in the accompanying graph.



7. a. y = 5x + 1,000

   b. y = 3x + 1,500.

8. a. line graph

   b. bar graph

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c. pie chart

d. line graph

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CHAPTER ONE
ECONOMICS AND ECONOMIC REASONING
PROBLEM SET

1. Briefly point out the faulty reasoning in each of the following situations: *(LO2)*

   a. You win a free, nontransferable ticket to a Taylor Swift concert. Since the ticket is free and it will therefore cost you nothing to go, you decide to go to the concert.

   b. You paid nonrefundable tuition of $3,000 to take a 15-week course. Therefore, the opportunity cost of attending class each week is $3,000 divided by 15, or $200.

   c. You like to avoid costs; every decision involves opportunity cost. So you don't make decisions.

   d. You have purchased 5 premium apples for $1.99 a pound, but when you get home, you discover they are mushy. Since you paid top dollar for these apples, you decide you have to eat them.

2. Classify the following *Wall Street Journal* articles as involving *macroeconomic* or *microeconomic* issues based on their titles: *(LO1)*

   a. "Jerome Powell Affirms Fed's Patient Approach to Future Interest Rate Charges"

   b. "How Drugs for Rare Diseases Became Lifeline for Companies"

   c. "Monetary Tightening Damps Brazil Investment"

   d. "Debut of *Chicken Little* Gives Disney Something to Crow Over"

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3. Identify the following statements as examples of *positive economics*, *normative economics*, or *the art of economics*: *(LO5)*

   a. The Federal government needs to raise the minimum wage to $8 per hour so that families will have sufficient income to meet their basic needs.

   b. A country's overall income is more important than how that income is distributed.

   c. One in four workers today has no access to employment-based family health coverage.

   d. To reduce income inequality in the U.S., we could increase the earned-income tax credit.

   e. It is the federal government's responsibility to assure health coverage for all families.

4. Briefly explain why the following statements are either TRUE or FALSE: *(LO3)*

   a. Even though school dormitory rooms are rationed by lottery, these rooms are still affected by economic forces.

   b. Because the U.S. postal service is a monopoly and Congress sets postal prices through legislation, market forces do not determine stamp prices.

   c. New York City government auctions taxi medallions that give the right to transport passengers by taxi. Because the government controls the number of medallions, market forces do not determine their price.

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Answers to the Problem Set

1. a. Going to the concert does have a cost to you. The cost is the benefit you would have received from another activity, or opportunity cost.

   b. Since the tuition is nonrefundable, it is a sunk cost and therefore no longer represents opportunity costs. The true opportunities costs of continuing to take the course are the benefit of doing something else during class time.

   c. Deciding not to make decisions is still a decision. The opportunity cost of not considering choices is the benefit you would have gained from making those choices.

   d. How much you paid for the apples is a sunk cost, and therefore is not relevant.

2. a. Macroeconomics

   b. Microeconomics

   c. Macroeconomics

   d. Microeconomics

3. a. Normative

   b. Normative

   c. Positive

   d. Art of economics

   e. Normative

4. a. True. Economic forces always operate.

   b. True. Political forces, not market forces determine stamp prices.

   c. False. Even though the government regulates this market, because the medallions are sold at an auction, market forces determine their prices.

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CHAPTER TWO
THE PRODUCTION POSSIBILITY MODEL, TRADE, AND GLOBALIZATION PROBLEM SET

1. Refer to Figure 2-2 in the textbook to answer the following: *(LO1)*

   a. What is the opportunity cost of increasing gun production from 7 to 9 guns?

   b. What is the opportunity cost of increasing gun production from 9 to 11 guns?

   c. What is happening to the opportunity cost of producing guns as more are produced?

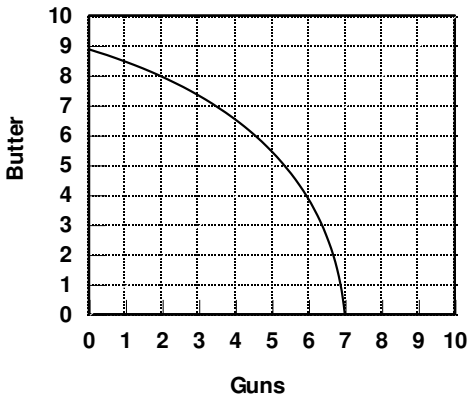
2. Explain how a production possibility curve for agriculture goods and manufacturing goods would shift after each of the events described below: *(LO1)*

   a. A drought in the Midwest reduces agricultural yield per acre.

   b. Advances in computer technology lower the cost of producing manufactured goods but do not affect the cost of producing agricultural goods.

   c. Civil war disrupts the production of all goods equally in the United States.

3. On the graph, below, label one example of each of the following: *(LO1, LO2)*



   a. Efficient production. Label it point A.

   b. Inefficient production. Label it point B.

   c. Unattainable production. Label it point C.

   d. Why is point B inefficient?

4. A clothing accessory company produces scarves and earrings. Below are the production possibility combinations it can produce with the resources that it has. *(LO1, LO2)*

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Scarves	Earrings
10	0
9	50
8	90
7	120
6	145
5	165
4	185
3	200
2	215
1	225
0	230

a. Draw the production possibility curve in the space below.

b. Suppose technological advances increase production of both earrings and scarves by 10% without increasing costs. Demonstrate the effect of this innovation on the production possibility curve you drew above.

5. Briefly explain why the following statements are either TRUE or FALSE: *(LO3, LO4)*

a. One way for the United States to regain a comparative advantage in the production of goods is for the U.S. exchange rate to decline.

b. Trade restrictions facilitate the impact of the law of one price on wages and prices internationally.

c. Wages in China are lower than in the United States. Therefore, China has a comparative advantage in the production of all goods.

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Answers to the Problem Set

The following are the correct answers to the problem set along with the learning objective(s) associated with each question.

1. a. Decreasing butter production by 3 from 12 to 9 pounds.

   b. Decreasing butter production by 4 from 9 to 5 pounds.

   c. Opportunity costs of producing guns increase as more guns are produced. This is called the principle of increasing marginal opportunity cost.

2. a. It would shift in along the axis labeled "agricultural goods."

   b. It would shift out along the axis labeled "manufacturing goods."

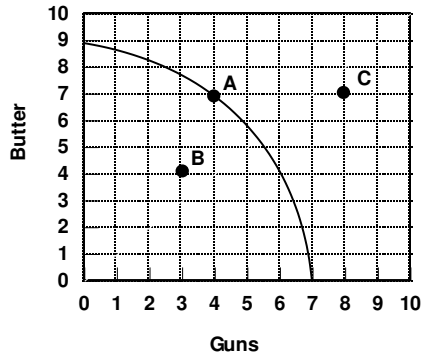
   c. It would shift in along both axes.

3. a. See graph.

   b. See graph.

   c. See graph.

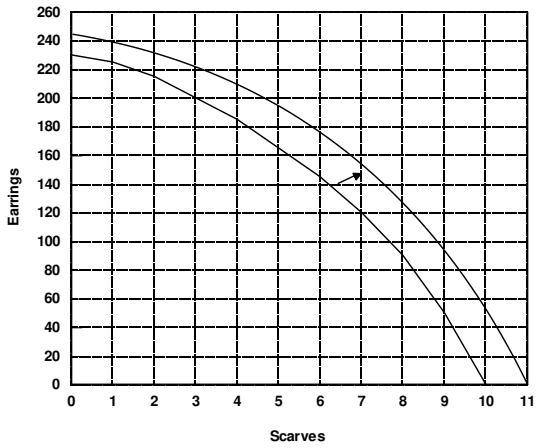
   d. Point B is inefficient because it is inside the production possibility curve. One could increase the number of guns while still produce the same amount of butter, or vice versa.



4. Parts a & b together:

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5. a. True. If the U.S. exchange rate falls, the dollar value of foreign wages will rise. That is, the relative wages of U.S. workers will decline, which will help the U.S. regain its comparative advantage.

   b. False. Because trade restrictions restrict the flow of goods and services, they keep the law of one price from equalizing wages and prices internationally.

   c. False. A country that has a comparative advantage in producing one set of goods means that the other country has to have a comparative advantage in the other set of goods.

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Web Note 1.1: Costs and Benefits

Learning to think in terms of costs and benefits is useful if done correctly, but misleading if done superficially. The challenge is to include *all* the costs and benefits, even those that cannot be measured in money. Economists should know better, but they are often guilty of putting too much emphasis on what can be measured and too little emphasis on what cannot. Thus economists provide much ammunition for their critics, who accuse them of reducing everything to means (costs) and ends (benefits) — to inputs and outputs.

British economist E. F. Schumacher and his followers have been among the more persistent critics of narrowly construed means (costs) vs. ends (benefits) thinking. Schumacher was particularly critical of economists' habit of thinking about labor as simply a cost. For more information on Schumacher, see The E.F. Schumacher Society and "Buddhist Economics," one of the essays in *Small Is Beautiful*, E. F. Schumacher, Harper & Row, 1975.

The *Freakonomics* blog briefly considers a wide range of costs involved in searching for the ideal job or mate in "Why Finding the Best Isn't Worth It."

Select a choice you've recently made. Did it involve costs that can be measured in money prices? What were the costs and benefits of that choice?

Web Note 1.2: Blogonomics

Blog sites that address economic topics abound and can be an excellent way to broaden your exploration of economics. The blogs comment on a vast assortment of questions, issues and policies, are written from various perspectives, and utilize many different economic concepts and models. Many of the blog sites include lists of other related blogs (see *Economix*, for example).

Here is a small sampling of active blogs:

- Real Time Economics: economic insights and analysis from the *Wall Street Journal*
- Economix: the economy and economics of everyday life from the *New York Times*
- Marginal Revolution: George Mason University professors Tyler Cowen and Alex Tabbarok analyze a wide array of issues
- Becker-Posner Blog: comments on a range of policy and economic issues from Gary Becker (University of Chicago economist) and Richard Posner (University of Chicago law professor). It terminated with Gary Becker's death, but past discussions are still interesting.

These websites contain lists of economics blogs, though none can claim to be comprehensive or completely up-to-date:

- Blog Nation: Economics Index: lists blogs and the first few words of recent entries for each blog
- "The Top 100 Economics Blogs of 2018": an *Intelligent Economist's* blog entry listing their top 100 in no particular order.
- Making Economics Come Alive presents a set of videos about economics by journalist John Stossel.

Choose a blog. What is the blog about? Does it have a political bent? Who might find the blog useful?

Web Note 1.3: Opportunity Cost

The YouTube video, What Is Opportunity Cost?, of a father and daughter illustrates this key economic concept.

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Can you improve on the definition of opportunity cost given in the video? What examples of opportunity cost can you give from your own decisions in the past week?

Web Note 1.4: Hip Hop Economics

Economics and economic principles show up in a wide range of popular media, including movies and music. The musical group Rhythm, Rhyme, Results presents a number of songs about economic topics such as marginal analysis and gains from trade. The Economics of Seinfeld has short clips of Seinfeld that relates to Economics.

What examples of economic concepts or economic decision making can you find in recent movies, books, and music? How accurately are these economic ideas presented?

Web Note 1.5: The Art of Economics

Question: When economists give policy advice to governments or try to influence policy through speeches or articles directed to the general public, are they engaging in *positive economics, normative economics,* or the *art of economics*?

Answer: They are engaging in the art of economics, which involves using their knowledge of both positive and normative economics.

Many economists (such as Alan Blinder, Brad DeLong, Robert Reich, Dani Rodrik, and Paul Krugman) try to influence policy through columns, articles, and op-ed pieces written for general audiences and through blogs. Their arguments fall under the art of economics.

Can you identify the positive and, normative aspects of their writings in some of their essays?

Web Note 2.1: Wine and Cloth

The principle of comparative advantage was developed by David Ricardo in 1817. You can find Ricardo's now-famous example — trading English cloth for Portuguese wine — in Chapter Seven of *Principles of Political Economy*.

Critics of an over-rigid adherence to the principle of comparative advantage also draw on Ricardo's example. They point out that this principle is *static* — that it depends on relative costs at a particular point in time and ignores the dynamic effects of different industries. In order to make cloth more efficiently, the English developed textile machinery. When it was no longer profitable for the English to export cloth, they could move on to export cloth-making machinery. Winemaking did not lead into other industries as easily.

Can you think of an example of the principle of comparative advantage that is dynamic? What is it?

Web Note 2.2: Gains from Trade

In April 2009, while the economy was still in the recession that began in December 2007, the director of the World Trade Organization urged countries not to implement trade barriers in response to the slowdown in the global economy, arguing that increased protectionism would be counterproductive and stand in the way of economic recovery. His comments are summarized in this blog entry at Real Time Economics, part of the *Wall Street Journal*: WTO Chief on Trade Barriers.

Why might countries be tempted to enact protectionist measures in times of economic crisis? Use basic economic theory to explain how trade can benefit the economies of two trading partners.

Web Note 2.3: Trade and Wages

How does international trade affect wages? Are the wage effects different for workers with different skills? How do these wage effects change the distribution of income in an economy? These are questions that are hotly debated by economists, including Nouriel Roubini's article, "Trade and Wages" and this Peterson Institute article that sets out a variety of theories.

What are your answers to the three questions posed above?

Web Note 2.4: Brexit

In June 2016, the citizens of the United Kingdom voted to leave the European Union, effectively a divorce between the United Kingdom and other European countries committed to free trade among member countries. The Economist covered the exit of the U.K. from the EU, aka "Brexit" on their website.

Search recent news regarding Brexit. *What are the current issues regarding trade between the UK and EU countries? Are trade barriers or barriers to the migration of labor being considered? What would be the expected effect on the U.K. economy? On the EU economies? Do you support Brexit? Why or why not?*

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