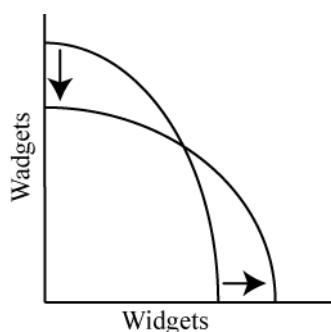
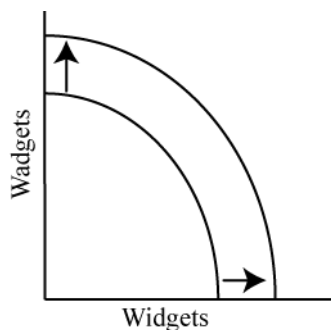


**Chapter 2: The Production Possibility Model, Trade, and Globalization****Questions and Exercises**

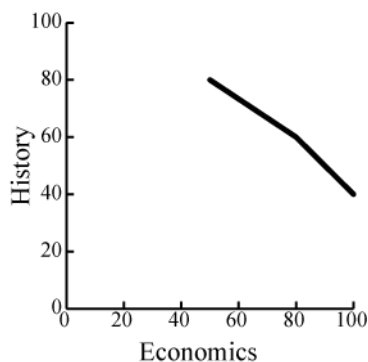
1. In the accompanying figure, wadget production is measured on the vertical axis and widget production is measured on the horizontal axis. If the society becomes more productive in its output of widgets, it can produce more of them, and the endpoint of the curve on the horizontal axis will move to the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

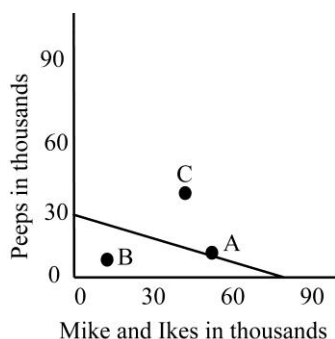


3. Any production possibility curve that shows the principle of a rising trade-off must be bowed out. The accompanying grade production possibility curve embodies the principle of rising trade-off. The table is also presented here. Notice that for each 20-point gain in the History grade, the amount of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

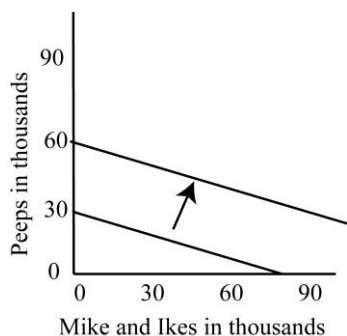


History	Economics
40	100
60	80
80	50

4. a. 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 1 Mike and Ike is  $\frac{1}{3}$  of a Peep.
- b. See the accompanying graph.

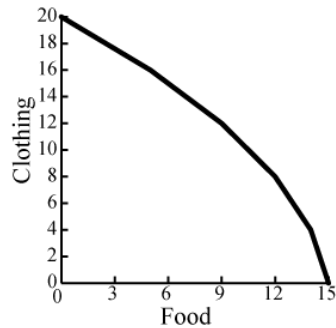


- c. Point A is efficient. Point B is inefficient. Point C is impossible.
- d. See the accompanying graph.

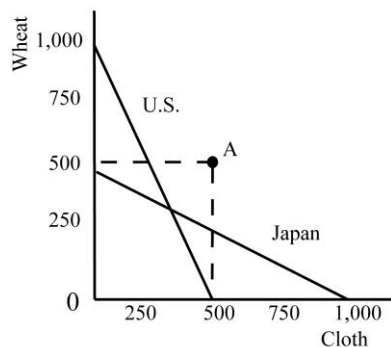


5. The theory of comparative advantage underlies the shape of the production possibility curve. If each person's comparative advantage is taken advantage of, higher total output can be reached than would be the case if each produced all goods on his or her own or if each produced goods for which he or 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.

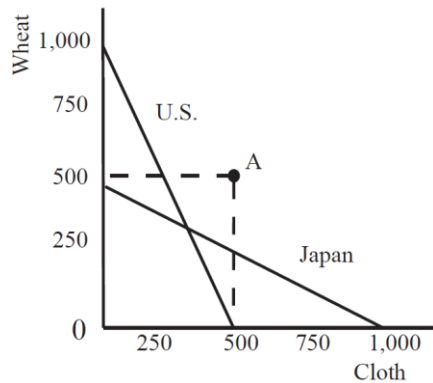
6. a. See the accompanying graph.



- b. As the output of food increases, the trade-off between food and clothing is increasing. To illustrate, giving up 4 of clothing (from 20 to 16) results in a gain of 5 food (from 0 to 5), but giving up another 4 clothing (from 16 to 12) results in a gain of 4 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 producing 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 in 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, whereas 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 fabric and they divide total production equally. Both get 500 tons of wheat and 500 yards of fabric. Both end up with more of each good. (Note: Other combinations are possible.)
- d. See the accompanying graph.



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 exceed foreign wages only to the degree that U.S. workers are more productive than foreign workers. Therefore, the adjustments that will need to occur will equalize wage rates. Thus, 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 prices states that the wages of workers in one country will not differ significantly from the 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.

### 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 for doing good, since the government is not subject to entry and exit as firms are in the market. Also, whether every individual voice is taken into account depends on the government system, whereas the market will always include any individual’s voice by that individual’s entry or exit.

2. Religious

- a. Most people would say that although 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 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. Although men and women may both be used in advertising, typically men are shown to be in a dominant position of power and women are shown in subordinate positions.

4. Institutional

- 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 continue to generate jobs in those areas. Senators with power on the appropriations committee inevitably have larger defense expenditures in their districts than do 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 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 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 might argue that the latest Iraq war is an example, with Halliburton benefiting from it and the former head of Halliburton, Vice President Cheney, leading the group pushing for the U.S. entrance into the war.

5. Radical

- a. Yes, for many low-wage jobs it does, although technology is changing that to some degree.
- b. When making policy decisions, society must take into account not only what is produced but the methods and means of production.

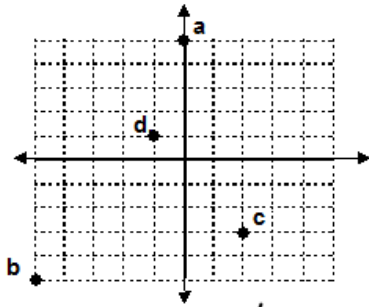
**Issues to Ponder**

- 1. This statement can be true or false depending on the implicit assumptions made in the analysis. It is true in light of the fact 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 a particular distribution of income is one of society's goals, a particular production technique that leads to greater output but also an undesirable distribution of income might be considered an inefficient method of production. 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 whereas 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 a 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.

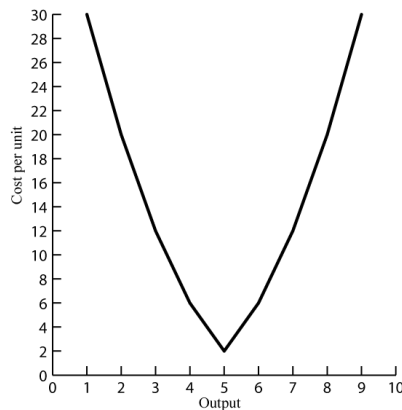
4. The fact that lawns occupy more land in the United States than does any single crop does not mean that the United States is operating inefficiently. Although the cost of enjoying lawns is not included in GDP, lawns are nevertheless produced consumption goods and are included in the production possibility curve for the United States. The high proportion of land devoted to lawns implies that the United States has enough 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 would gain at the expense of others. This is an example of the tragedy of the commons.
6.
  - a. Firms may produce in Germany because (1) transportation costs to and 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 would be 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, might 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 cost of production.

## Chapter 2: Appendix A

1. See the accompanying graph.
- 2.

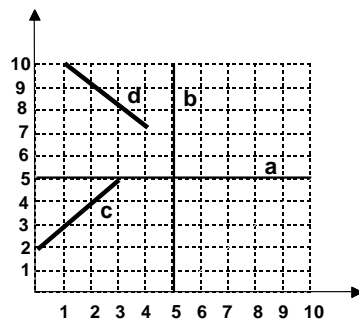


3. See the accompanying graph.
- 4.



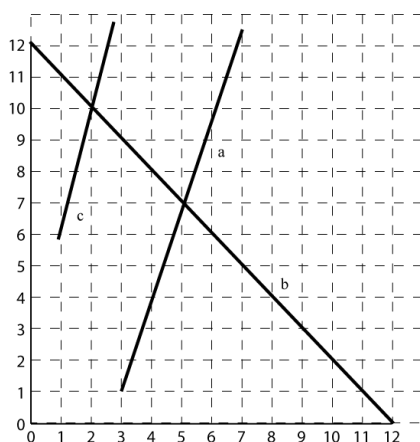
- a. The relationship is nonlinear because it is curved, not straight.
- b. From 0 to 5, cost declines as quantity rises (inverse relationship). From 5 to 10, cost rises as quantity rises (direct relationship).
- c. From 0 to 5, the slope is negative (slopes down). From 5 to 10, the slope is positive (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  $-10$ .

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.  
c. Pie chart.  
d. Line graph.