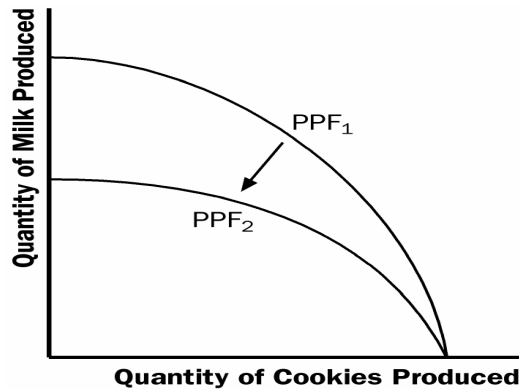


Chapter 2 Solutions to Practice Questions

Textbook Questions: Questions for Review

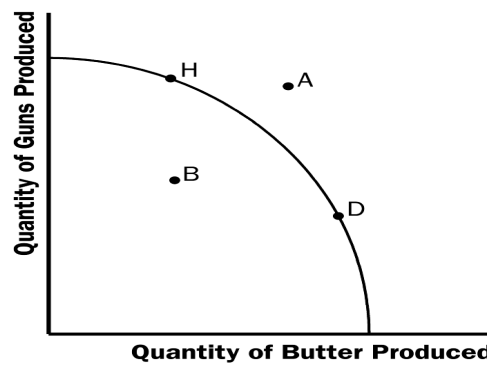
1. Economics is like a science because economists use the scientific method. They devise theories, collect data, and then analyze these data in an attempt to verify or refute their theories about how the world works. Economists use theory and observation like other scientists, but they are limited in their ability to run controlled experiments. Instead, they must rely on natural experiments.
3. An economic model cannot describe reality exactly because it would be too complicated to understand. A model is a simplification that allows the economist to see what is truly important.
4. If a disease kills half of the economy's cow population, less milk production is possible, so the *PPF* shifts inward (*PPF*₂). Note that if the economy produces all cookies, so it doesn't need any cows, then production is unaffected. But if the economy produces any milk at all, then there will be less production possible after the disease hits.



9. Economists sometimes offer conflicting advice to policymakers for two reasons:
(1) economists may disagree about the validity of alternative positive theories about how the world works; and (2) economists may have different values and, therefore, different normative views about what public policy should try to accomplish.

Problems and Applications

4. a. The production possibilities frontier is bowed out because of increasing opportunity costs. Some resources are more suitable for producing guns, while others are more suitable for producing butter. When the economy is producing many guns, workers and machines best suited to making butter are being used to make guns, so each unit of guns given up yields a large increase in the production of butter. Thus, the production possibilities frontier is flat. When the economy is producing a lot of butter, workers and machines best suited to making guns are being used to make butter, so each unit of guns given up yields only a small increase in the production of butter. Thus, the production possibilities frontier is steep.



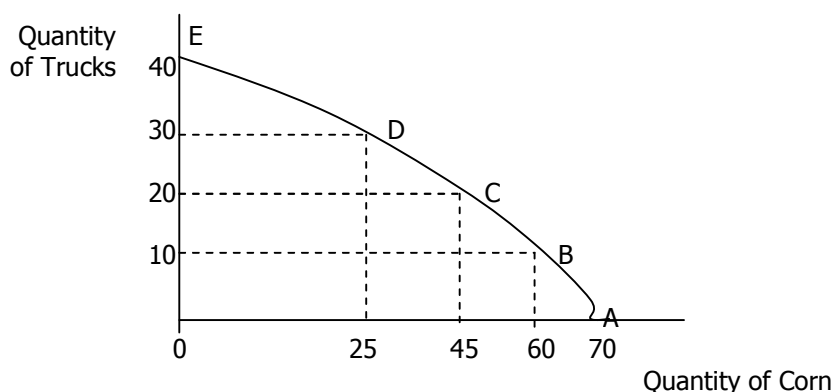
- b. Point A is impossible for the economy to achieve; it is outside the production possibilities frontier. Point B is feasible but inefficient because it's inside the production possibilities frontier.
 - c. The Hawks might choose a point like H, with many guns and not much butter. The Doves might choose a point like D, with a lot of butter and few guns.
 - d. If both Hawks and Doves reduced their desired quantity of guns by the same amount, the Hawks would get a bigger peace dividend because the production possibilities frontier is much flatter at point H than at point D. As a result, the reduction of a given number of guns, starting at point H, leads to a much larger increase in the quantity of butter produced than when starting at point D.
6.
 - a. A family's decision about how much income to save is microeconomics.
 - b. The effect of government regulations on auto emissions is microeconomics.
 - c. The impact of higher saving on economic growth is macroeconomics.
 - d. A firm's decision about how many workers to hire is microeconomics.
 - e. The relationship between the inflation rate and changes in the quantity of money is macroeconomics.
7.
 - a. The statement that society faces a short-run tradeoff between inflation and unemployment is a positive statement. It deals with how the economy *is*, not how it should be. Since economists have examined data and found that there is a short-run negative relationship between inflation and unemployment, the statement is a fact, thus it is a positive statement.
 - b. The statement that a reduction in the rate of growth of money will reduce the rate of inflation is a positive statement. Economists have found that money growth and inflation are very closely related. The statement thus tells how the world is, and so it is a positive statement.
 - c. The statement that the Bank of Canada should reduce the rate of growth of money is a normative statement. It states an opinion about something that should be done, not how the world is.
 - d. The statement that society ought to require welfare recipients to look for jobs is a normative statement. It doesn't state a fact about how the world is. Instead, it is a statement of how the world should be and is thus a normative statement.

- e. The statement that lower tax rates encourage more work and more saving is a positive statement. Economists have studied the relationship between tax rates and work, as well as the relationship between tax rates and saving. They have found a negative relationship in both cases. So the statement reflects how the world is: thus it is a positive statement.
9. As the prime minister, you'd be interested in both the positive and normative views of economists, but you'd probably be *most* interested in their positive views. Economists are on your staff to provide their expertise about how the economy works. They know many facts about the economy and the interaction of different sectors. So you would be most likely to call on them about questions of fact—positive analysis. Since you are the prime minister, you are the one who has to make the normative statements as to what should be done, with an eye to the political consequences. The normative statements made by economists represent their own views, not necessarily your views or the electorate's views.
12. As time goes on, you might expect economists to disagree less about public policy because they will have opportunities to observe different policies that are put into place. As new policies are tried, their results will become known, and they can be evaluated better. It's likely that the disagreement about them will be reduced after they've been tried in practice. For example, many economists thought that wage and price controls would be a good idea for keeping inflation under control, while others thought it was a bad idea. But when the controls were tried in the early 1970s, the results were disastrous. The controls interfered with the invisible hand of the marketplace and shortages developed in many markets. As a result, most economists are now convinced that wage and price controls are a bad idea for controlling inflation.

But it is unlikely that the differences between economists will ever be completely eliminated. Economists differ on too many aspects of how the world works. Plus, even as some policies get tried out and are either accepted or rejected, creative economists keep coming up with new ideas.

Additional Questions

1. a.



- b. Opportunity cost of producing 10 more trucks:
- from 0 to 10 trucks = 10 bushels of corn (move from A to B)
 - from 10 to 20 trucks = 15 bushels of corn (move from B to C)
 - from 20 to 30 trucks = 20 bushels of corn (move from C to D)
 - from 30 to 40 trucks = 25 bushels of corn (move from D to E)

- c. The more trucks this country produces (moving from point A to E), the higher the opportunity cost of producing yet another 10 trucks. An increasing number of bushels of corn must be given up to obtain each additional 10 trucks. This is because the resources used to produce trucks and corn are specialized and not well suited to producing both products. When the economy is only producing a few trucks, to produce more trucks we first take those resources out of corn production which are most suitable to truck production. Eventually, as we produce more and more trucks, the resources remaining in corn production are less and less suitable for producing trucks. This means an increasing amount of corn must be given up (*since an increasing amount of resources must be taken out of corn production*) to produce each additional 10 trucks.
 - d. One point of inefficient production would be 20 trucks and 25 bushels of corn. This combination is inefficient because the economy can produce 20 more bushels of corn without giving up any trucks (*for a total of 20 truck + 45 corn*), or it can produce 10 additional trucks without giving up any corn (*for a total of 25 corn + 30 trucks*) if the resources were fully employed and/or used more efficiently. Any point inside of the PPF is inefficient.
 - e. Any point to the right of the PPF is not attainable at the present time. One such point would be the combination of 20 trucks and 60 bushels of corn. Given the available resources and technology, if this economy decides to produce 20 trucks, the most it can produce is 45 bushels of corn, and if it produces 60 bushels of corn, the most it can produce is 10 trucks. However, over time as the economy's resources grow and with technological advances, the PPF would shift outwards and this combination may be attainable.
 - f. If the economy is producing 10 trucks and 25 bushels of corn, the opportunity cost of producing an additional 20 trucks is zero. The economy doesn't have to give up any corn to get the additional 20 trucks, since by using its resources more efficiently it is possible to have a total of 30 trucks and 25 bushels of corn. When the economy moves from a point inside its PPF to a point on the frontier, there is no opportunity cost involved because there is no tradeoff.
2. a. A devastating hurricane floods many of the potato fields.
The flooding of the fields will destroy many potato crops. This will reduce the flow of goods and services from firms to households since fewer potatoes will now be available for sale. In turn, fewer dollars will flow from households to firms as payment for potatoes. So firms will have fewer dollars to pay for factors and as a result, fewer factors will be hired so the flow of factors falls, which in turn reduces payments by firms to households (household incomes), which in turn reduces household spending.
 - b. The fishing season is very productive and record numbers of fish are caught. A larger quantity of fish is produced by firms so the flow of goods and services from firms to households will increase. The effects on the flow of factors, incomes and spending will be opposite to that in (a) above.
 - c. The residents of this simple economy decide that they would like to spend more time on dancing and other leisure activities. Time spent dancing and on activities other than work reduces the flow of labour from households to firms so there will be a reduction in the flow of factors of production. In turn, fewer dollars will flow from firms to households so household incomes fall. Since households now have lower income with which to buy goods and services, they reduce their spending so the flow of goods and services from firms to households will fall.