SOLUTIONS MANUAL

McCONNELL
BRUE
FLYNN

Economics

18

1-3   (*Key Question*) Cite three examples of recent decisions that you made in which you, at least implicitly, weighed marginal costs and marginal benefits.

Student answers will vary, but may include the decision to come to class, to skip breakfast to get a few extra minutes of sleep, to attend college, or to make a purchase. Marginal benefits of attending class may include the acquisition of knowledge, participation in discussion, and better preparation for an upcoming examination. Marginal costs may include lost opportunities for sleep, meals, or studying for other classes. In evaluating the discussion of marginal benefits and marginal costs, be careful to watch for sunk costs offered as a rationale for marginal decisions.

1-5   (*Key Question*) Indicate whether each of the following statements applies to microeconomics or macroeconomics:

   a. The unemployment rate in the United States was 4.9 percent in January 2008.

   b. A U.S. software firm discharged 15 workers last month and transferred the work to India.

   c. An unexpected freeze in central Florida reduced the citrus crop and caused the price of oranges to rise.

   d. U.S. output, adjusted for inflation, grew by 2.2 percent in 2007.

   e. Last week Wells Fargo Bank lowered its interest rate on business loans by one-half of 1 percentage point.

   f. The consumer price index rose by 2.8 percent in 2007.

Macroeconomics: (a), (d), and (f)

Microeconomics: (b), (c), and (e)

1-7   (*Key Question*) Suppose you won $15 on a lotto ticket at the local 7-Eleven and decided to spend all the winnings on candy bars and bags of peanuts. The price of candy bars is $.75 and the price of peanuts is $1.50.

   a. Construct a table showing the alternative combinations of the two products that are available.

   b. Plot the data in your able as a budget line in a graph. What is the slope of the budget line? What is the opportunity cost of one more candy bar? Of one more bag of peanuts? Do these opportunity costs rise, fall, or remain constant as each additional unit of the product is purchased.

   c. How, in general, would you decide which of the available combinations of candy bars and bags of peanuts to buy?

   d. Suppose that you had won $30 on your ticket, not $15. Show the $30 budget line in your diagram. Why would this budget line be preferable to the old one?

(a)   Consumption alternatives

Goods	A	B	C	D	E	F
Candy bars	0	4	8	12	16	20
Bags of peanuts	10	8	6	4	2	0

(b)

Bags of
Peanuts

$$Slope = \frac{-.75}{1.5} = -.5$$

10
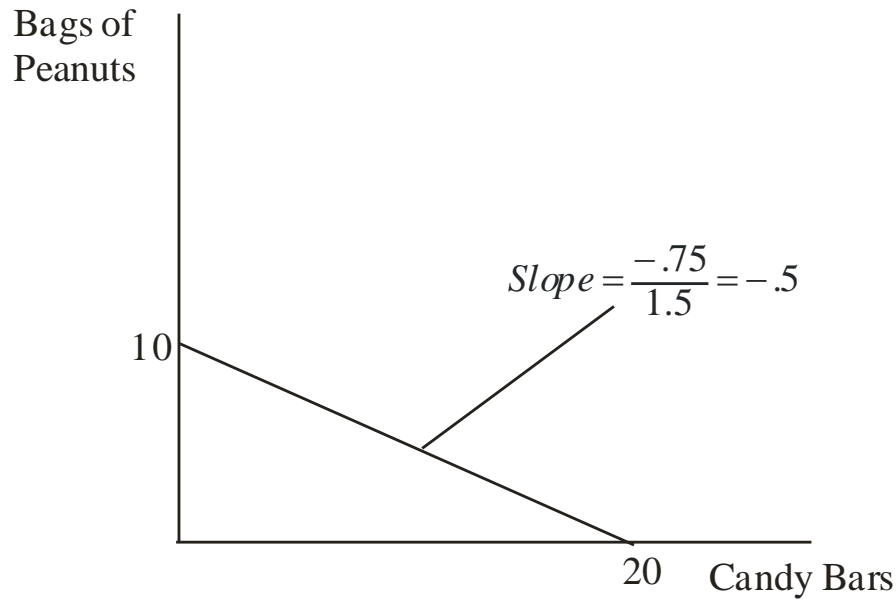
20   Candy Bars

The slope for the budget line above, with candy bars on the horizontal axis, is -0.5 (= $-P_{cb}/P_{bp}$). Note that the figure could also be drawn with bags of peanuts on the horizontal axis. The slope of that budget line would be -2.

The opportunity cost of one more candy bar is ½ of a bag of peanuts. The opportunity cost of one more bag of peanuts is 2 candy bars. These opportunity costs are constant. They can be found by comparing any two of the consumption alternatives for the two goods.

(c) The decision of how much of each to buy would involve weighing the marginal benefits and marginal costs of the various alternatives. If, for example, the marginal benefits of moving from alternative C to alternative D are greater than the marginal costs, then this consumer should move to D (and then compare again with E, and so forth, until MB=MC is attained).

(d)

Bags of
Peanuts

Income= $15

20

Income = $30

10

20   40   Candy Bars
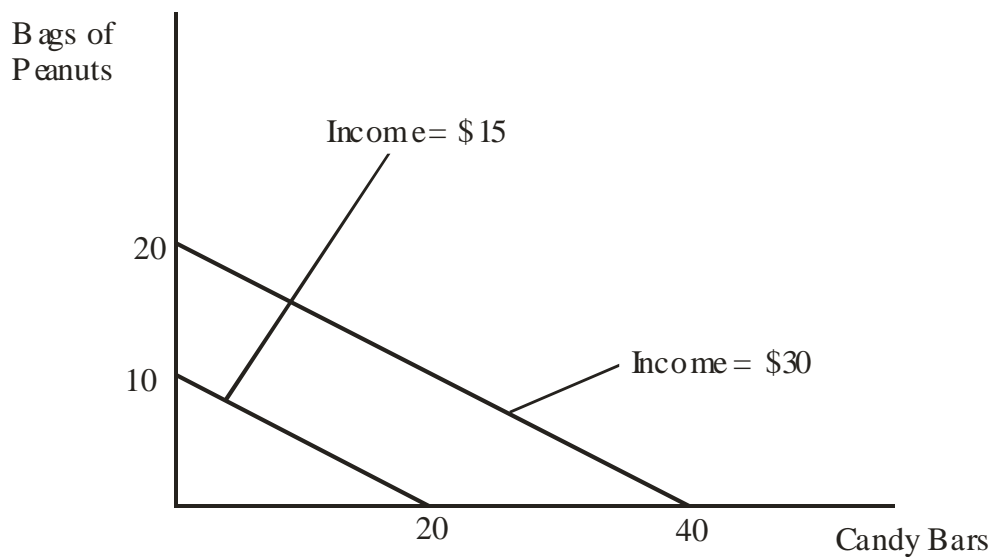
The budget line at $30 would be preferable because it would allow greater consumption of both goods.

1-10 (*Key Question*) Below is a production possibilities table for consumer goods (automobiles) and capital goods (forklifts):

Type of Production	Production Alternatives				
	A	B	C	D	E
Automobiles	0	2	4	6	8
Forklifts	30	27	21	12	0

a. Show these data graphically. Upon what specific assumptions is this production possibilities curve based?

b. If the economy is at point C, what is the cost of one more automobile? Of one more forklift? Explain how the production possibilities curve reflects the law of increasing opportunity costs.

c. If the economy characterized by this production possibilities table and curve were producing 3 automobiles and 20 fork lifts, what could you conclude about its use of available resources?

d. What would production at a point outside the production possibilities curve indicate? What   must occur before the economy can attain such a level of production?

(a) See curve EDCBA.   The assumptions are full employment, fixed supplies of resources, fixed technology and two goods.
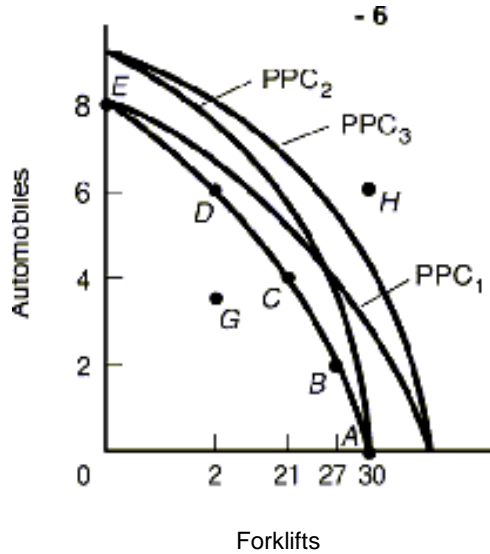
(b) The opportunity cost of one more automobile is 9/2 = 4.5 forklifts. The opportunity cost of one more forklift is 2/6 = 1/3 or .33 automobiles, as determined from the table. Increasing opportunity costs are reflected in the concave-from-the-origin shape of the curve. This means the economy must give up larger and larger amounts of rockets to get constant added amounts of automobiles—and vice versa.

(c) The economy is underutilizing its available resources. The assumption of full employment has been violated.

(d) Production outside the curve cannot occur (consumption outside the curve could occur through foreign trade). To produce beyond the current production possibilities curve this economy must realize an increase in its available resources and/or technology.

1-11   (*Key Question*) Specify and explain the typical shapes of the marginal-benefit and marginal-cost curves. How are these curves used to determine the optimal allocation of resources to a particular product? If current output is such that marginal cost exceeds marginal benefit, should more or fewer resources be allocated to this product? Explain.

The marginal benefit curve is downward sloping, MB falls as more of a product is consumed because additional units of a good yield less satisfaction than previous units. The marginal cost curve is upward sloping, MC increases as more of a product is produced since additional units require the use of increasingly unsuitable resource. The optimal amount of a particular product occurs where MB equals MC. If MC exceeds MB, fewer resources should be allocated to this use. The resources are more valuable in some alternative use (as reflected in the higher MC) than in this use (as reflected in the lower MB).

1-13   (*Key Question*) Referring to the table in question 10, suppose improvement occurs in the technology of producing forklifts but not in the technology of producing automobiles. Draw the new production possibilities curve. Now assume that a technological advance occurs in producing automobiles but not in producing forklifts. Draw the new production possibilities curve. Now draw a production possibilities curve that reflects technological improvement in the production of both products.

See the graph for question 1-10. PPC$_1$ shows improved forklift technology. PPC$_2$ shows improved auto technology. PPC$_3$ shows improved technology in producing both products.

1-14   (*Key Question*) On average, households in China save 40 percent of their annual income each year, whereas households in the United States save less than 5 percent. Production possibilities are growing at roughly 9 percent annually in China and 3.5 percent in the United States. Use graphical analysis of "present goods" versus "future goods" to explain the differences in growth rates.
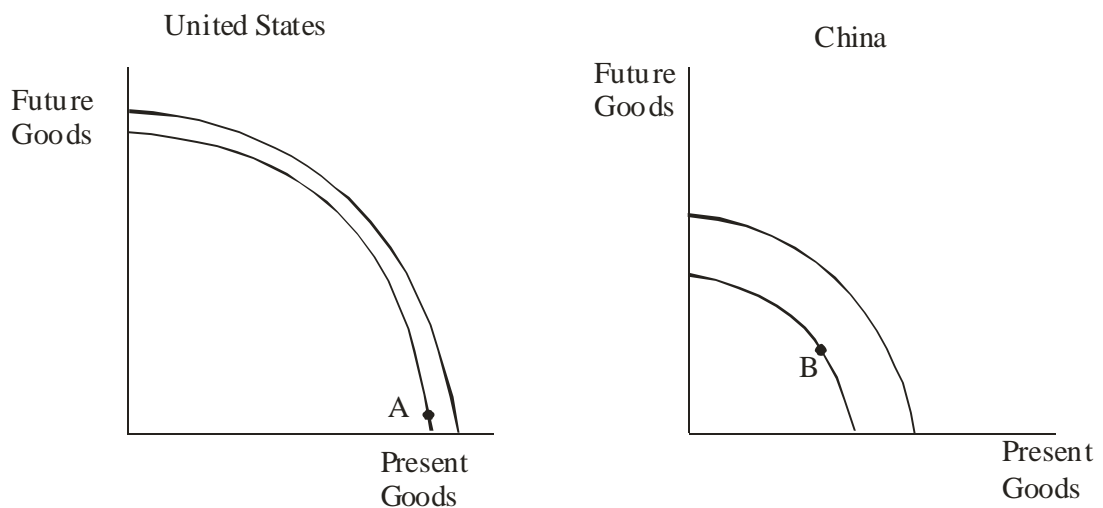
1A-2   (*Key Appendix Question*)   Indicate how each of the following might affect the data shown in the table and graph in Figure 2 of this appendix:
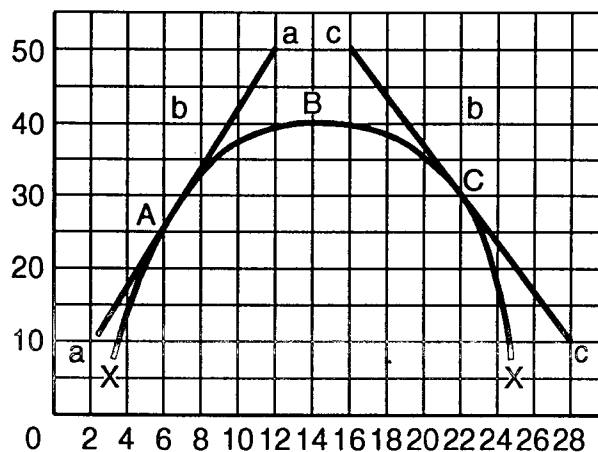
     a.   GSU's athletic director schedules higher-quality opponents.

     b.   An NBA team locates in the city where GSU plays.

     c.   GSU contracts to have all its home games televised.

     (a) More tickets are bought at each price; the line shifts to the right.

     (b) Fewer tickets are bought at each price, the line shifts to the left.

     (c) Fewer tickets are bought at each price, the line shifts to the left.

1A-3   (*Key Appendix Question*)   The following table contains data on the relationship between saving and income. Rearrange these data into a meaningful order and graph them on the accompanying grid. What is the slope of the line? The vertical intercept? Interpret the meaning of both the slope and the intercept. Write the equation which represents this line. What would you predict saving to be at the $12,500 level of income?

Income (per year)`	Saving (per year)
$15,000	$1,000
0	-500
10,000	500
5,000	0
20,000	1,500

Income column: $0; $5,000; $10,000, $15,000; $20,000. Saving column: $-500; 0; $500; $1,000; $1,500. Slope = 0.1 (= $1,000 - $500)/($15,000 - $10,000). Vertical intercept = $-500. The slope shows the amount saving will increase for every $1 increase in income; the intercept shows the amount of saving (dissaving) occurring when income is zero. Equation: $S = \$\text{-}500 + 0.1Y$ (where S is saving and Y is income). Saving will be $750 at the $12,500 income level.

1A-7   (*Key Appendix Question*)   The accompanying graph shows curve *XX* and tangents at points *A*, *B*, and *C*. Calculate the slope of the curve at these three points.

Slopes: at A = +4; at B = 0; at C = -4.