GLOBAL EDITION

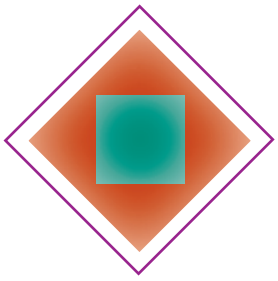
ECONOMICS

Michael Parkin

14th Edition

ECONOMICS

FOURTEENTH EDITION
GLOBAL EDITION



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SUMMARY

Key Points

Consumption Possibilities (pp. 244–246)

- The budget line is the boundary between what a household can and cannot afford, given its income and the prices of goods.
- The point at which the budget line intersects the *y*-axis is the household's real income in terms of the good measured on that axis.
- The magnitude of the slope of the budget line is the relative price of the good measured on the *x*-axis in terms of the good measured on the *y*-axis.
- A change in the price of one good changes the slope of the budget line. A change in income shifts the budget line but does not change its slope..

Preferences and Indifference Curves (pp. 247–250)

- A consumer's preferences can be represented by indifference curves. The consumer is indifferent among all the combinations of goods that lie on an indifference curve.
- A consumer prefers any point above an indifference curve to any point on it and prefers any point on an indifference curve to any point below it.
- The magnitude of the slope of an indifference curve is called the marginal rate of substitution.
- The marginal rate of substitution diminishes as consumption of the good measured on the *y*-axis decreases and consumption of the good measured on the *x*-axis increases.

Predicting Consumer Choices (pp. 250–255)

- A household consumes at its best affordable point. This point is on the budget line and on the highest attainable indifference curve and has a marginal rate of substitution equal to relative price.
- The effect of a price change (the price effect) can be divided into a substitution effect and an income effect.
- The substitution effect is the effect of a change in price on the quantity bought when the consumer (hypothetically) remains indifferent between the original choice and the new choice.
- The substitution effect always results in an increase in consumption of the good whose relative price has fallen.
- The income effect is the effect of a change in income on consumption.
- For a normal good, the income effect reinforces the substitution effect. For an inferior good, the income effect works in the opposite direction to the substitution effect.

Key Terms

Budget line, 244
Diminishing marginal rate of substitution, 248
Income effect, 253
Indifference curve, 247
Marginal rate of substitution, 248
Price effect, 251
Real income, 245
Relative price, 245
Substitution effect, 254

PROBLEMS AND APPLICATIONS

Consumption Possibilities

Use the following data to work Problems 1 and 2.

Sara's income is $12 a week. The price of popcorn is $3 a bag, and the price of a smoothie is $3.

1. Calculate Sara's real income in terms of smoothies. Calculate her real income in terms of popcorn. What is the relative price of smoothies in terms of popcorn? What is the opportunity cost of a smoothie?
2. Calculate the equation for Sara's budget line (with bags of popcorn on the left side). Draw a graph of Sara's budget line with the quantity of smoothies on the *x*-axis. What is the slope of Sara's budget line? What determines its value?

Use the following data to work Problems 3 and 4.

Sara's income falls from $12 to $9 a week, while the price of popcorn is unchanged at $3 a bag and the price of a smoothie is unchanged at $3.

3. What is the effect of the fall in Sara's income on her real income in terms of (a) smoothies and (b) popcorn?
4. What is the effect of the fall in Sara's income on the relative price of a smoothie in terms of popcorn? What is the slope of Sara's new budget line if it is drawn with smoothies on the *x*-axis?
5. Sara's income is $12 a week. The price of popcorn rises from $3 to $6 a bag, and the price of a smoothie is unchanged at $3. Explain how Sara's budget line changes with smoothies on the *x*-axis.

Preferences and Indifference Curves

6. Draw figures that show your indifference curves for the following pairs of goods:
   - Right gloves and left gloves
   - Coca-Cola and Pepsi
   - Desktop computers and laptop computers
   - Strawberries and ice cream

   For each pair, are the goods perfect substitutes, perfect complements, substitutes, complements, or unrelated goods?
7. Discuss the shape of the indifference curve for each of the following pairs of goods:
   - Sugar and honey
   - Movies and popcorn
   - Printers and printer cartridges
   - Snoods and scarves

   Explain the relationship between the shape of the indifference curve and the marginal rate of substitution as the quantities of the two goods change.

Predicting Consumer Choices

Use the following data to work Problems 8 and 9.

Pam has made her best affordable choice of cookies and granola bars. She spends all of her weekly income on 30 cookies at $1 each and 5 granola bars at $2 each. Next week, she expects the price of a cookie to fall to 50¢ and the price of a granola bar to rise to $5.

8. a. Will Pam be able to buy and want to buy 30 cookies and 5 granola bars next week?
   b. Which situation does Pam prefer: cookies at $1 and granola bars at $2 or cookies at 50¢ and granola bars at $5?
9. a. If Pam changes how she spends her weekly income, will she buy more or fewer cookies and more or fewer granola bars?
   b. When the prices change next week, will there be an income effect, a substitution effect, or both at work?

Use the following news clip to work Problems 10 and 11.

Second-Hand Clothing Is More Popular Than Ever. Even in a Pandemic

Resale has been doing very well through the pandemic. At Poshmark, which connects buyers with sellers of new and used merchandise, sales are up 50% year-over-year from mid-April into May.

Source: cnn.com, June 12, 2020

10. a. According to the news clip, is second-hand clothing a normal good or an inferior good? If the price of second-hand clothing falls and income remains the same, explain how the quantity of second-hand clothing bought changes.
    b. Describe the substitution effect and the income effect that occur.
11. Draw a graph of a person's indifference curves for second-hand clothing and other goods. Then draw two budget lines to show the effect of a fall in income on the quantity of second-hand clothing purchased.

ADDITIONAL PROBLEMS AND APPLICATIONS

Consumption Possibilities

Use the following data to work Problems 12 to 15.

Marc has a budget of $20 a month to spend on root beer and movie tickets. The price of root beer is $5 a bottle, and the price of a movie ticket is $10.

12. What is the relative price of root beer in terms of movie tickets and what is the opportunity cost of a bottle of root beer?
13. Calculate Marc's real income in terms of root beer. Calculate his real income in terms of movie tickets.
14. Calculate the equation for Marc's budget line (with the quantity of root beer on the left side).
15. Draw a graph of Marc's budget line with the quantity of movie tickets on the *x*-axis. What is the slope of Marc's budget line? What determines its value?

Use the following data to work Problems 16 to 19.

Amy has $20 a week to spend on coffee and cake. The price of coffee is $4 a cup, and the price of cake is $2 a slice.

16. Calculate Amy's real income in terms of cake. Calculate the relative price of cake in terms of coffee.
17. Calculate the equation for Amy's budget line (with cups of coffee on the left side).
18. If Amy's income increases to $24 a week and the prices of coffee and cake remain unchanged, describe the change in her budget line.
19. If the price of cake doubles while the price of coffee remains at $4 a cup and Amy's income remains at $20, describe the change in her budget line.

Use the following news clip to work Problems 20 and 21.

Food Prices in Kenya Draining Consumers

Food prices in Kenya are among the highest in the world. An average urban family in Kenya spends almost half of its income on food, which heavily drains expenditure that could have otherwise been diverted toward education, clothing, and investment.

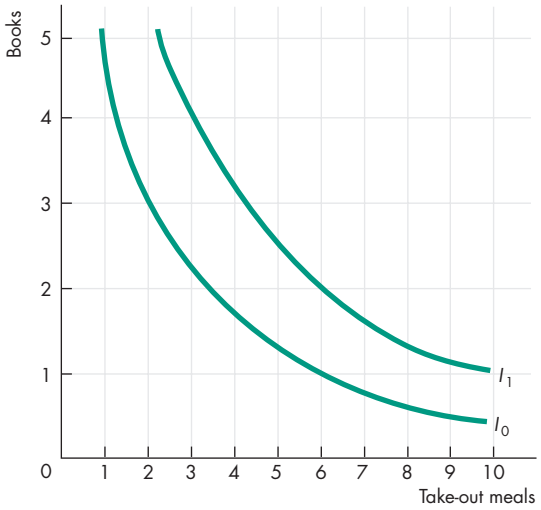
Source: *Daily Nation*, February 26, 2011

20. a. Sketch a budget line for a Kenyan household that spends its income on only two goods: food and education. Identify the affordable and unaffordable combinations of the two goods.
    b. Sketch a second budget line to show how a rise in the price of food changes the affordable and unaffordable combinations of food and education. Describe how the household's consumption possibilities change.
21. How does an increase in the price of food change the relative price of an hour of education? How does an increase in the price of food change real income in terms of food and in terms of education? How does a simultaneous fall in the price of education change the answers to these questions?

Preferences and Indifference Curves

Use the following data to work Problems 22 and 23.

Rashid buys only books and take-out meals and the figure shows his preference map.



22. a. If Rashid chooses 3 books and 2 take-out meals, what is his marginal rate of substitution?
    b. If Rashid chooses 2 books and 6 take-out meals, what is his marginal rate of substitution?
23. Do Rashid's indifference curves display diminishing marginal rate of substitution? Explain why or why not.
24. **Workers Thrive When They Feel Respected**

    Sarah's boss gave her complete autonomy but the new boss by-passed Sarah to deliver directives to her team and changed many of her decisions. Despite being well paid, Sarah resigned. She felt disrespected.

    Source: worldnewsera.com, October 30, 2020

An earlier survey found that trust in management is a big component of job satisfaction. Say you get a new boss and your trust in management goes up a bit (say, up 1 point on a 10-point scale). That's like getting a 36-percent pay raise. In other words, that increased level of trust will boost your level of overall satisfaction in life by about the same amount as a 36-percent raise would.

a. Measure trust in management on a 10-point scale, measure pay on the same 10-point scale, and think of them as two goods. Sketch an indifference curve (with trust on the *x*-axis) that is consistent with the news clip.

b. What is the marginal rate of substitution between trust in management and pay according to this news clip?

c. What does the news clip imply about the principle of diminishing marginal rate of substitution? Is that implication likely to be correct?

Predicting Consumer Choices

Use the following data to work Problems 25 and 26.

Najib has made his best affordable choice of sparkling water and jellybeans. He spends all of his income on five bottles of sparkling water at $2 each and 10 bags of jellybeans at $4 each. Now the price of sparkling water rises to $2.50 a bottle and the price of jellybeans drops to $3.75 a bag.

25. a. Will Najib now be able and want to buy five bottles of sparking water and 10 bags of jellybeans?

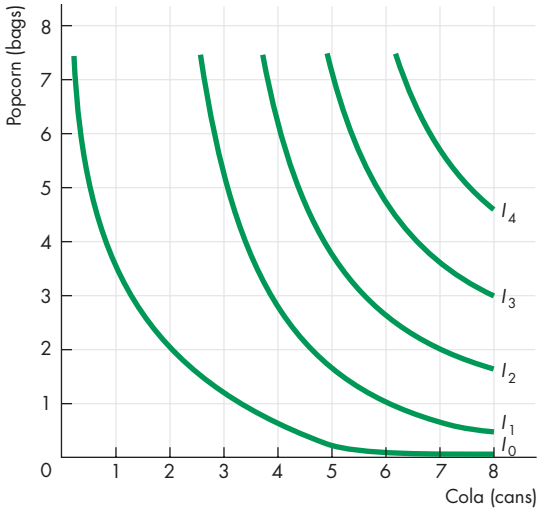
    b. Which situation does Najib prefer: sparkling water at $2 a bottle and jellybeans at $4 a bag or sparkling water at $2.50 a bottle and jellybeans at $3.75 a bag?

26. a. If Najib changes the quantities that he buys, will he buy more or fewer bottles of sparkling water and more or fewer bags of jellybeans? Explain your answer.

    b. When the prices change, will there be an income effect, a substitution effect, or both at work? Explain your answer.

Use the following data to work Problems 27 to 29.

Sara's income is $12 a week. The price of popcorn is $3 a bag, and the price of cola is $1.50 a can. The figure shows Sara's preference map for popcorn and cola.



27. What quantities of popcorn and cola does Sara buy? What is Sara's marginal rate of substitution at the point at which she consumes?

28. Suppose that the price of cola rises from $1.50 to $3.00 a can while the price of popcorn and Sara's income remain the same. What quantities of cola and popcorn does Sara now buy? What are two points on Sara's demand curve for cola? Draw Sara's demand curve.

29. Suppose that the price of cola rises to $3.00 a can and the price of popcorn and Sara's income remain the same.

    a. What is the substitution effect of this price change and what is the income effect of the price change?

    b. Is cola a normal good or an inferior good? Explain.

Economics in the News

30. After you have studied *Economics in the News* on pp. 256–257, answer the following questions.

    a. If both sugary and healthy drinks are taxed at the same rate and if Sam's drinks budget remains at $30 a month, how does her drinks consumption change?

    b. Which tax has the larger substitution effect and income effect: a tax on all drinks or a tax on sugary drinks?

    c. Draw a graph like Fig. 3 to illustrate your answers to parts a and b.

Making the Most of Life

PART THREE **WRAP-UP**

UNDERSTANDING HOUSEHOLDS' CHOICES

The powerful forces of demand and supply shape the fortunes of families, businesses, nations, and empires in the same unrelenting way that the tides and winds shape rocks and coastlines. You saw in Chapters 3 through 7 how these forces raise and lower prices, increase and decrease quantities bought and sold, cause revenues to fluctuate, and send resources to their most valuable uses.

These powerful forces begin quietly and privately with the choices that each one of us makes. Chapters 8 and 9 probe these individual choices, offering two alternative approaches to explaining both consumption plans and the allocation of time. These explanations of consumption plans can also explain "non-economic" choices, such as whether to marry and how many children to have. In a sense, there are no non-economic choices. If there is scarcity, there must be choice, and economics studies all choices.

The earliest economists (Adam Smith and his contemporaries) did not have a very deep understanding of households' choices. It was not until the nineteenth century that progress was made in this area when Jeremy Bentham (below) introduced the concept of utility and applied it to the study of human choices. Today, Steven Levitt, whom you will meet on the following page, is one of the most influential students of human behavior.

Jeremy Bentham *(1748–1832), who lived in London, was the son and grandson of lawyers and was himself trained as a barrister. But Bentham rejected the opportunity to maintain the family tradition and, instead, spent his life as a writer, activist, and Member of Parliament in the pursuit of rational laws that would bring the greatest happiness to the greatest number of people.*

Bentham, whose embalmed body is preserved to this day in a glass cabinet in the University of London, was the first person to use the concept of utility to explain human choices. But in Bentham's day, the distinction between explaining and prescribing was not a sharp one, and Bentham was ready to use his ideas to tell people how they ought to behave. He was one of the first to propose pensions for the retired, guaranteed employment, minimum wages, and social benefits such as free education and free medical care.

"... It is the greatest happiness of the greatest number that is the measure of right and wrong."

JEREMY BENTHAM
Fragment on Government

TALKING WITH Steven D. Levitt

I think of economics as being primarily about a way of looking at the world and a set of tools for thinking clearly.

STEVEN D. LEVITT is William B. Ogden Distinguished Service Professor of Economics at the University of Chicago. Born in Minneapolis, he was an undergraduate at Harvard and a graduate student at MIT. Among his many honors, he was recently awarded the John Bates Clark Medal, given to the best economist under 40.

Professor Levitt has studied an astonishingly wide range of human choices and their outcomes. He has examined the effects of policing on crime, shown that real estate agents get a higher price when they sell their own homes than when they sell other people's, devised a test to detect cheating teachers, and studied the choices of drug dealers and gang members. Much of this research has been popularized in *Freakonomics* (Steven D. Levitt and Stephen J. Dubner, HarperCollins, 2005). What unifies this apparently diverse body of research is the use of natural experiments. Professor Levitt has an incredible ability to find just the right set of events and the data the events have generated to enable him to isolate the effect he's looking for.

Michael Parkin talked with Steven Levitt about his work and what economists have discovered about how people respond to incentives.

Why did you become an economist?

As a freshman in college, I took introductory economics. All the ideas made perfect sense to me—it was the way I naturally thought. My friends were befuddled. I thought, "This is the field for me!"

The idea of rational choice made at the margin lies at the heart of economics. Would you say that your work generally supports that idea or challenges it? Can you provide some examples?

I don't like the word "rational" in this context. I think economists model agents as being rational just for convenience. What really matters is whether people respond to incentives. My work very much supports the idea that humans in all types of circumstances respond strongly to incentives. I've seen it with drug dealers, auto thieves, sumo wrestlers, real estate agents, and elementary school teachers, just to name a few examples.

Drug dealers, for instance, want to make money, but they also want to avoid being arrested or even killed. In the data we have on drug sellers, we see that when the drug trade is more lucrative, dealers are willing to take greater risks of arrest to carve out a share of the market.... Sumo wrestlers, on the other hand, care mostly about their official ranking. Sometimes matches occur where one wrestler has more to lose or gain than the other wrestler. We find that sumo wrestlers make corrupt deals to make sure the wrestler who wins is the one who needs to win.

Why is an economist interested in crime and cheating?

I think of economics as being primarily about a way of looking at the world and a set of tools for thinking clearly. The topics you apply these tools to are unlimited. That is why I think economics has been so powerful. If you understand economics and use the tools wisely, you will be a better business person, doctor, public servant, parent.