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CHAPTER 1

Thinking Like an Economist

Scarcity, opportunity cost, and the marginal way of thinking that runs through every later chapter.

What this chapter covers



1.1–1.3 Core ideas

- What microeconomics is
- Scarcity & opportunity cost
- Thinking at the margin



1.4–1.5 The method

- Models & comparative statics
- Reading graphs
- Positive vs. normative



1.6–1.8 Evidence

- Case: the 2020 toilet-paper shortage
- Empirical: returns to college
- How the book is organized

THE THREAD

Two habits of mind unify the whole book: weighing opportunity costs, and deciding at the margin.

1.1

What Is Microeconomics?

- The questions micro asks
- Micro vs. macro
- Three kinds of decision maker
- The three questions every economy answers

1.1 WHAT IS MICROECONOMICS?

Everyday puzzles micro tries to answer



Prices differ

Why does gas cost \$3.20 in one state and \$4.80 in another?



Prices move

Why did a basic face mask cost a few cents in 2019 and several dollars a year later?



Budgets differ

Why does a family in India spend ~half its income on food, a U.S. family less than a tenth?



Policy choices

Why tax cigarettes heavily yet subsidize electric cars?

IN ONE SENTENCE

Microeconomics studies how individual decision makers choose when they cannot have everything, and how those choices meet in markets.

1.1 WHAT IS MICROECONOMICS?

Micro vs. macro

■ Microeconomics

The study of how individual consumers, firms, and governments make choices under scarcity, and how those choices interact in markets.

■ Macroeconomics

The study of the economy as a whole: total output, unemployment, inflation, and growth.

WHY “MICRO”

“Micro” does not mean small questions. It means we build understanding from the ground up, from the decision makers whose choices produce the prices and quantities we observe.

1.1 WHAT IS MICROECONOMICS?

Three kinds of decision maker

C

Consumers

How people choose among the things they could buy, given what they can afford. Coffee on the way to class, hesitation over a \$1,200 phone, or a front-row concert seat at double the price.

F

Firms

How producers turn inputs into output and set prices. How many stores to open, workers to hire, what to charge for a latte.

G

Governments

How regulators predict responses before acting. Cap rents? Tax sugary drinks? Auction the airwaves?

1.1.1 THE THREE QUESTIONS

Every economy must answer three questions

1

WHAT?

Which goods get produced, more housing or more highways, more food or more entertainment?

2

HOW?

By what method, many workers with simple tools, or few workers with advanced machines?

3

FOR WHOM?

Who receives the output, and on what basis?

TWO WAYS TO ANSWER

In a centrally planned economy, officials decide. In a market economy, the questions are settled by the decentralized choices of millions of buyers and sellers, coordinated by prices.

1.1.1 THE THREE QUESTIONS

The rationality assumption

■ Rational decision maker

Each one pursues an objective, more satisfaction for a consumer, higher profit for a firm, as well as possible, given limited resources and limited information.

Not selfish. Rationality does not mean people never care about others.

Not flawless. It does not mean people never make mistakes.

Tested, not assumed. “A Look into Behavioral Economics” sections show when people care about fairness, follow rules of thumb, or misjudge risk.

1.2

Scarcity, Trade-offs, and Opportunity Cost

- The starting point: scarcity
- Opportunity cost defined
- The production possibilities frontier
- Comparative advantage and gains from trade

1.2 SCARCITY & TRADE-OFFS

Everything starts with scarcity

■ Scarcity

We cannot have everything we want, because time, money, and resources are limited, a student has 24 hours, a family one income, a country only so much land, labor, and capital.

THE CONSEQUENCE

Scarcity forces trade-offs, giving up one thing in order to get another.

1.2 OPPORTUNITY COST

The most important cost in the book

■ Opportunity cost

The value of the next-best alternative you give up when you make a choice. Not just the money you spend, everything you sacrifice.

A HABIT TO BUILD

Whenever you catch yourself asking “what is this really costing me?” you are thinking about opportunity cost.

1.2 OPPORTUNITY COST

A free Saturday: one choice, three options

Option	Value to you	
Work a shift	\$120	(chosen)
Attend the concert	\$90	next-best alternative
Study for the exam	\$70	

Table 1.1 Opportunity cost is the value of the next-best forgone option.

READ IT RIGHT

Cost of working is NOT \$160 (concert + study). It is \$90, the single best forgone option.

Net gain = $\$120 - \$90 = \$30$.

1.2 OPPORTUNITY COST

The idea generalizes far beyond Saturday

College. Its true cost is not only tuition but the salary given up by not working full time.

Highways. A country's true cost of more highways is the schools or hospitals it could have built instead.

SELF-CHECK

Spend Saturday tutoring (\$60), hiking (you value at \$45), or sleeping in (\$30). Opportunity cost of tutoring? Net gain?

Opportunity cost = \$45 (the single best alternative, not $\$45 + \30). Net gain = $\$60 - \$45 = \$15$.

1.2.1 PRODUCTION POSSIBILITIES FRONTIER

An economy's trade-offs: computers vs. wheat

Computers (1000s)	Wheat (1000s tons)	Wheat given up for +20 computers
0	100	
20	90	10
40	70	20
60	40	30
80	0	40

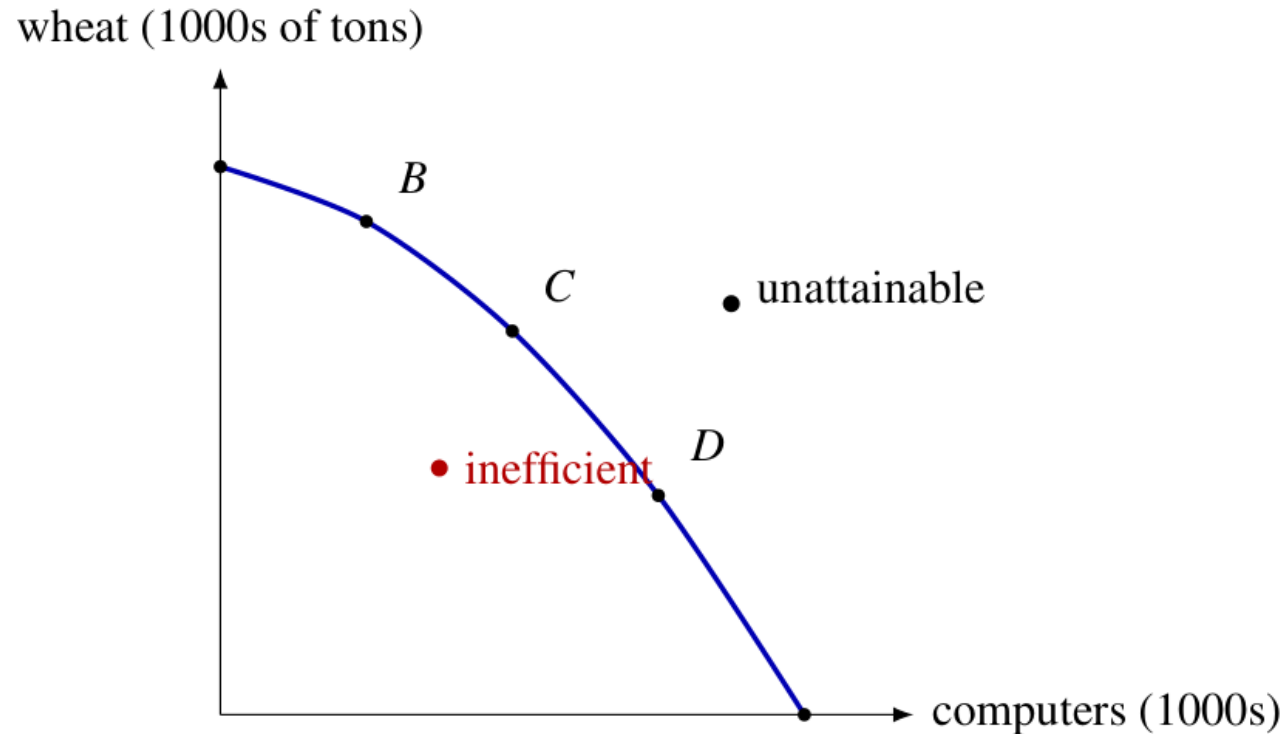
Table 1.3 Combinations the economy can produce using all resources.

THE PPF

A model of scarcity for a whole economy: it can make wheat, computers, or any mix, but not unlimited amounts of both.

1.2.1 PRODUCTION POSSIBILITIES FRONTIER

The frontier, plotted



Slopes down. More computers means less wheat.

Slope = opportunity cost. Of one good in terms of the other.

EXPLORE THE FIGURE

Move a slider along an interactive PPF and watch the opportunity cost of one good rise as you produce more of it.

tutors.felixmunozgarcia.com/intro-micro/ppf

Figure 1.1 Points on the curve are efficient; inside wastes resources; outside is unattainable.

1.2.1 PRODUCTION POSSIBILITIES FRONTIER

Why the frontier bows outward

INCREASING OPPORTUNITY COST

From Table 1.3, the cost rises: the first 20 computers cost only 10 thousand tons of wheat, but the last 20 cost 40 thousand.

■ The reason

Resources are not equally suited to both tasks. Pushing computer output higher pulls in workers and land ever less suited to computers and ever more valuable for growing wheat.

1.2.1 PRODUCTION POSSIBILITIES FRONTIER

Efficient, inefficient, unattainable, and growth



On the curve

Efficient: all resources used. More of one good only by giving up the other.



Inside the curve

Inefficient: resources wasted (e.g., unemployment). More of both is possible.



Outside the curve

Unattainable: beyond what current resources allow.

GROWTH

Economic growth shifts the whole frontier outward, as the economy gains resources or better technology (Chapter 8), the only way to reach the formerly unattainable points.

1.2.2 COMPARATIVE ADVANTAGE

Why trade can make everyone better off

	Bread (all day)	Fish (all day)	Opportunity cost
Anna	6	12	2 fish per loaf
Ben	4	4	1 fish per loaf

Table 1.4 Daily production and the opportunity cost of one loaf.

THE PUZZLE

Anna is better at BOTH goods, 6 loaves to Ben's 4, 12 fish to Ben's 4. She has an absolute advantage in each.

So why trade at all?

1.2.2 COMPARATIVE ADVANTAGE

Look at opportunity cost, not absolute skill



Anna's cost of bread

6 loaves means giving up 12 fish → each loaf costs her 2 fish.



Ben's cost of bread

4 loaves means giving up 4 fish → each loaf costs him just 1 fish.

■ Comparative advantage

Ben gives up less fish per loaf, so he is the lower-cost bread producer, even though he is worse at making it. By the same logic, Anna has the comparative advantage in fish.

1.2.2 COMPARATIVE ADVANTAGE

The gains from specializing and trading

Specialize. Each does what their opportunity cost is lowest, Ben makes bread, Anna makes fish.

Trade. Swap at a rate between the two opportunity costs, say one loaf for $1\frac{1}{2}$ fish.

Both win. Each ends up with more bread and more fish than either could produce alone.

THE LESSON

Mutually beneficial trade rests not on who is better in absolute terms, but on comparative advantage, differences in opportunity cost. It is why countries trade with partners far richer or poorer than themselves.

1.2.2 COMPARATIVE ADVANTAGE

Gains from trade, made numerical

	Bread	Fish
Anna, autarky (half day each)	3	6
Ben, autarky (half day each)	2	2
Anna, specialize (1 loaf, 10 fish), trade	3	7
Ben, specialize (4 loaves), trade	2	3

Daily consumption: autarky vs. specialization with trade at 2 loaves for 3 fish.

GAINS FROM TRADE

Each ends up with the same bread as under autarky and one more fish.

That extra fish, for both at once, is the gain from trade.

1.3

Thinking at the Margin

- Marginal benefit and marginal cost
- The marginal decision rule
- A worked bakery example
- Incentives matter

1.3 THINKING AT THE MARGIN

Good decisions are made at the margin

- To decide how much to do, a rational decision maker does not ask whether the activity is worthwhile in total.
- She asks whether ONE MORE unit is worthwhile: does its extra benefit exceed its extra cost?



Marginal benefit (MB)

The extra benefit from one more unit.



Marginal cost (MC)

The extra cost of one more unit.

1.3 THINKING AT THE MARGIN

The marginal decision rule

THE RULE

Keep doing more as long as the marginal benefit of the next unit is at least as large as its marginal cost, stop when they are equal.

This rule reappears, in different costumes, in almost every chapter.

1.3 THINKING AT THE MARGIN

A bakery decides how many cakes to bake

Cake number	MB (price)	Marginal cost
1	\$20	\$8
2	\$20	\$12
3	\$20	\$16
4	\$20	\$20
5	\$20	\$25

- Each cake sells for \$20, so MB is flat at \$20.
- MC rises as ovens and staff get busier.
- Cake 4 is the break-even case.

Table 1.2 Bake one more cake as long as $MB \geq MC$.

1.3 THINKING AT THE MARGIN

Bake until MC meets MB

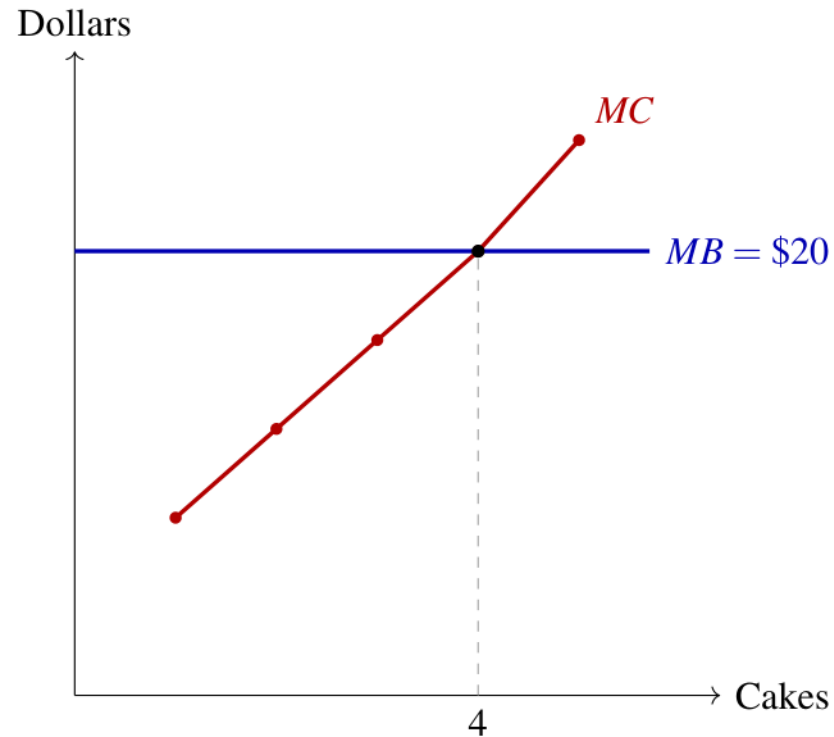


Figure 1.2 Marginal benefit and marginal cost for the bakery.

THINKING AT THE MARGIN

Bake cakes 1–3 (benefit exceeds cost). Cake 4 breaks even. Cake 5 would lose money ($\$25 > \20).

Answer: 4 cakes, and we never computed total profit.

1.3.1 INCENTIVES MATTER

Change the incentives, and behavior changes

■ Incentives

Rewards and penalties that change the marginal benefit or marginal cost of an action. Because people decide at the margin, their choices respond to incentives.



Costlier parking

Drivers circle less, take transit more.



Solar tax credit

More households install panels.



A store sale

Shoppers who would have waited buy now.

1.3.1 INCENTIVES MATTER

Incentives can surprise us

Safer cars. Seatbelts and airbags made crashes survivable, some drivers, feeling safer, drove faster, offsetting part of the benefit.

Plastic-bag tax. Shoppers respond by bringing their own.

Daycare late fine. Can increase lateness if parents treat the penalty as a price they will pay.

THE LESSON

To predict what a policy will do, ask how it changes the incentives facing the people it touches, then follow those incentives to their conclusion.

1.3.1 INCENTIVES MATTER

A closer look: the Israeli daycare study

Setup. Gneezy and Rustichini (2000) followed ten Israeli daycare centers. At six of them, a small fine of NIS 10 (about \$3) was introduced for parents arriving late to pick up their child.

What happened. Late pickups roughly DOUBLED within a few weeks and stayed high. When the fine was withdrawn twelve weeks later, lateness did not revert to its pre-fine level.

The lesson. The fine converted an implicit moral obligation, do not inconvenience the staff, into an explicit price parents were willing to pay. A monetary incentive can crowd out a social norm, and removing the price does not restore it.

WHY IT MATTERS

To predict a policy, ask not only what marginal cost or benefit it changes, but how it reframes the decision, from a moral obligation into a market transaction.

1.4

Models, Assumptions, and Comparative Statics

- What an economic model is
- Why assumptions are fine
- Comparative statics & ceteris paribus
- Reading graphs

1.4 MODELS

A model is a deliberately simplified map

■ Model

A deliberately simplified description of reality that keeps only the features needed to answer a question.

THE SUBWAY-MAP ANALOGY

A subway map is a model. It distorts distances and leaves out streets, parks, and rivers, yet it is far more useful for crossing a city than a perfectly accurate satellite photo. By leaving out detail, models make the essential forces visible.

1.4 MODELS

Why unrealistic assumptions are fine

- When we assume a firm maximizes profit, or buyers prefer lower prices, we are not claiming this is literally true of everyone at every moment.
- We claim it is true OFTEN ENOUGH that a model built on it predicts well.

THE TEST OF A MODEL

A model is judged not by whether its assumptions are perfectly realistic, but by whether its predictions are borne out by evidence, which is why this book pairs every chapter's theory with real cases and data.

Comparative statics & ceteris paribus

■ Comparative statics

Change one thing, hold everything else fixed, and ask how the outcome changes. If the gas price rises, what happens to truck sales? If cigarette taxes rise, what happens to smoking?

CETERIS PARIBUS

“Holding everything else fixed”, the Latin *ceteris paribus*, lets us isolate the effect of ONE cause at a time. Most predictions and policy debates in this book are comparative-statics questions in disguise.

First feature of a curve: its slope

■ Slope

How steeply one variable responds to the other.



Steep curve

Quantity barely responds to price.



Flat curve

Quantity responds a lot to price.

We make this precise in Chapter 3 (elasticity).

Second feature: movement along vs. shift of a curve



Movement ALONG

Happens when the variable on the axis changes. Coffee's own price rises → we slide up the demand curve to a smaller quantity.



SHIFT of the curve

Happens when something NOT on the axis changes. Incomes rise → the entire curve moves to a new position.

WATCH OUT

Confusing the two is the single most common error students make. Always ask: what is on each axis, what does the slope mean, and does this event move us along the curve or shift it?

1.5

Positive versus Normative Analysis

- Statements that can be checked against evidence
- Statements that rely on values

1.5 POSITIVE VS. NORMATIVE

Two kinds of statement

IS

Positive

Describes how the world IS, can be checked against evidence.
“A higher minimum wage reduces the number of low-wage jobs.”



Normative

Describes how the world OUGHT to be, relies on values. “The government should raise the minimum wage.”

BOTH MATTER

Most of this book is positive: models and evidence predict what will happen. But good policy needs both, economics can say how a rent cap affects apartment supply; whether a city should adopt it depends on values.

1.6

Case Study: The Great Toilet-Paper Shortage of 2020

Every idea in the chapter, at work in one episode.

1.6 CASE STUDY

Stripped shelves, a normally steady product

**+several
hundred %**

U.S. retail purchases on peak days, mid-March 2020

weeks

that sales stayed well above normal

■ Thinking at the margin, under a frightening tail risk

Each family judged that one more package carried a large marginal benefit (avoiding the small but alarming chance of running out) against a marginal cost of a few dollars. Each choice was reasonable; together they produced a surge.

1.6 CASE STUDY

Why the shelves emptied

Opportunity cost. Low to each household, high for society, every extra package in a closet was one unavailable to a nurse or elderly neighbor.

Supply could not adjust. Mills already ran near full capacity around the clock; *ceteris paribus* broke down exactly when it mattered.

Not a fall in production. Output stayed near normal. It was a rightward jump in demand colliding with a supply that could not move.

NEXT CHAPTER

We formalize this collision with supply and demand in Chapter 2.

1.7

Empirical Evidence: The Returns to a College Degree

Opportunity cost, measured.

The largest cost of college is invisible

OPPORTUNITY COST IN ACTION

Tuition is the visible price. For most students the largest cost is the earnings they give up by studying instead of working full time, usually more than half of the true cost of a four-year degree.

■ Does it pay off?

Two large World Bank studies, Montenegro & Patrinos (2014) and Psacharopoulos & Patrinos (2018), compare earnings across many countries.

1.7 EMPIRICAL EVIDENCE

The evidence

~9%

rise in earnings per extra year of schooling,
worldwide average

>15%

typical return to a year of higher education

**among
highest**

returns a young person can earn on any
investment

NET OF OPPORTUNITY COST

These returns remain positive even after subtracting the earnings forgone during the study years.

The opportunity cost varies sharply across countries



Free-tuition systems

Germany, Norway, Mexico's public universities, forgone earnings make up nearly the entire cost of attending.



High-tuition systems

A U.S. private university can exceed \$50,000 a year, tuition and forgone earnings are closer in size.

TAKEAWAY

The lesson is not that college is right for everyone, but that judging its value requires counting the opportunity cost, not just the tuition bill.

EXPLORE THE DATA

Compare returns to education, how much an extra year of schooling raises earnings, across countries.

ourworldindata.org/global-education

1.8 HOW THIS BOOK IS ORGANIZED

The road ahead



Ch. 2–4

How prices are set in markets, and how policy moves them.



Ch. 5–7

Inside the consumer's decision.



Ch. 8–9

Inside the firm's decision.



Ch. 10–12

From many competing sellers to a single dominant one.



Ch. 13–15

Strategy: each player's best move depends on others.



Ch. 16–18

When markets work imperfectly, hidden information, auctions, spillovers.

CHAPTER 1

Key takeaways

1

Scarcity forces trade-offs

Limited time, money, and resources mean every choice has a cost.

2

Opportunity cost

The value of the next-best alternative forgone, not just money spent.

3

The PPF

Pictures efficiency, waste, the unattainable, and growth; its slope is opportunity cost.

4

Comparative advantage

Gains from trade rely on differences in opportunity cost, not absolute skill.

5

Think at the margin

Compare one more unit's benefit with its cost; stop where $MB = MC$.

6

Incentives & method

Behavior follows incentives; models, *ceteris paribus*, and positive vs. normative guide analysis.