

Pricing Strategies: Price Discrimination and Bundling

How firms with market power charge different buyers different prices for essentially the same thing, and how they get away with it.

What this chapter covers



12.2–12.3 Foundations

- When discrimination is possible
- First-degree (perfect)
- Is it good or bad?



12.4–12.6 The toolkit

- Third-degree (group) pricing
- Second-degree (menu) pricing
- Bundling & two-part tariffs



12.7–12.8 Evidence

- Case: airline yield management
- Empirical: price dispersion
- Online & personalized pricing

THE BIG IDEA

A monopolist charging a single price leaves money on the table. Price discrimination is the attempt to recover the surplus left by some buyers and to reach others who were priced out.

12.1

Introduction

- Different buyers, different prices
- Capturing more of the surplus
- A road map of the strategies

The same good, many prices



Flights

One passenger pays \$200 for a seat; the traveler beside her paid \$650.



Cinema

A student and a retiree are charged less than the adult next to them.



Software

A suite that would cost hundreds bought piece by piece sells far cheaper as one bundle.

THE QUESTIONS

Why do sellers charge different buyers different prices for essentially the same thing? This chapter studies price discrimination and the related practice of bundling, strategies to capture more of the surplus from Chapter 6.

12.2

When Is Price Discrimination Possible?

- Market power
- The ability to separate buyers
- No resale (no arbitrage)

12.2 WHEN IS IT POSSIBLE?

What price discrimination means

■ Price discrimination

Selling the same good to different buyers at different prices, for reasons unrelated to cost.

WHY IT MATTERS

When the three conditions on the next slide hold, a seller can practice one of three degrees of price discrimination, perfect, group, or menu pricing.

Three conditions must hold

1

1. Market power

The seller must be a price setter, not a price taker; a perfectly competitive firm has no room to discriminate.

2

2. Separate buyers

The seller can tell buyers apart by willingness to pay or elasticity, by age, location, timing, or the choices they make.

3

3. No resale

Low-price buyers cannot resell to high-price buyers (no arbitrage).

NO-RESALE, IN PRACTICE

This is why discrimination is common for services that cannot be resold, a haircut, a flight, and rare for easily traded goods.

12.3

First-Degree (Perfect) Price Discrimination

- Each buyer pays her maximum
- No consumer surplus remains
- Output reaches the competitive level

12.3 PERFECT PRICE DISCRIMINATION

Charging each buyer her maximum

■ First-degree (perfect) price discrimination

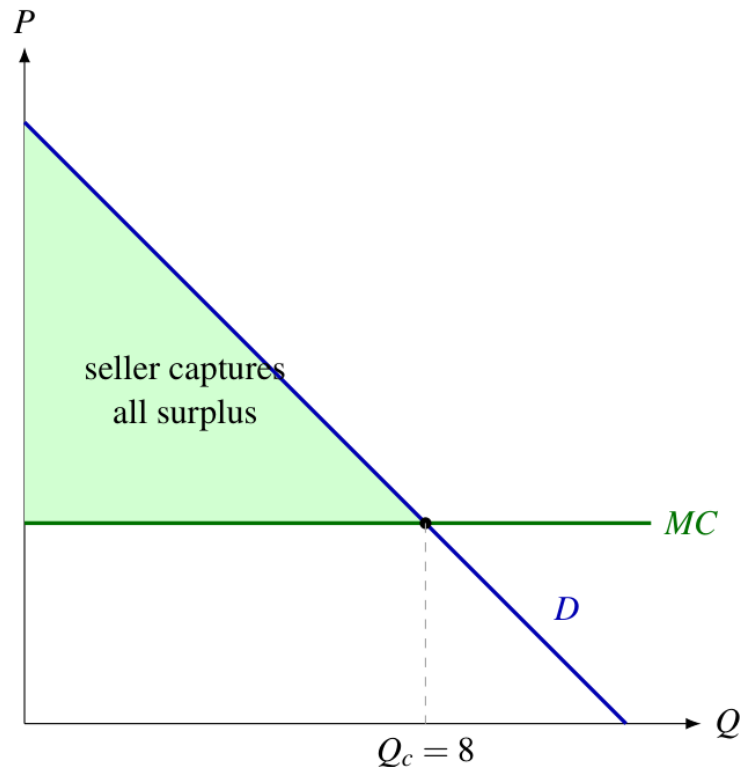
The seller charges each buyer exactly her maximum willingness to pay. Every buyer pays the most she would, so no consumer surplus remains, the seller captures all of it as profit.

Why Output Reaches the Efficient Level

Output expands all the way to the competitive level, where price equals marginal cost. No longer forced to drop the price on earlier units to sell more, the seller serves every buyer whose value exceeds marginal cost.

12.3 PERFECT PRICE DISCRIMINATION

The seller captures the entire surplus



- The seller takes the entire area between the demand curve and marginal cost.
- Output reaches the competitive level, every buyer whose value exceeds MC is served.
- Rare in practice: sellers rarely know each buyer's exact valuation.

Figure 12.1 Under perfect price discrimination the seller captures the whole surplus; output reaches the efficient, competitive level.

12.3 PERFECT PRICE DISCRIMINATION

Where we see it approximated



Car dealers

Haggling each customer down to her personal limit.



Financial aid

Colleges charge each family what it can pay.



Online sellers

Increasingly use personal data to tailor prices to each buyer.

Each comes close to charging every buyer her own price.

12.3.1

Is Price Discrimination Good or Bad?

A mixed verdict the economics explains.

12.3.1 GOOD OR BAD?

A genuine trade-off



The cost: surplus shifts

It transfers surplus from buyers to the seller. Under perfect discrimination consumers keep none of the gains from trade, which strikes many as unfair.



The gain: more access

The seller serves any buyer who pays above marginal cost, reaching low-value customers a single-price monopolist would shut out.

THE VERDICT

It often raises the quantity sold, the student with the discounted ticket, the patient who gets the cheaper drug, the early-booking traveler. Whether any case is desirable is a normative question on which reasonable people differ.

12.4

Third-Degree Price Discrimination

- Different prices to identifiable groups
- The elasticity rule
- Coupons that sort buyers
- A worked two-market example

12.4 THIRD-DEGREE PRICE DISCRIMINATION

Charging groups different prices

■ Third-degree price discrimination

The most common form: charging different prices to identifiable groups of buyers.

THE ELASTICITY RULE

The rule follows from elasticity: charge the HIGHER price to the group with the LESS elastic demand, and the lower price to the more elastic group.

12.4 THIRD-DEGREE PRICE DISCRIMINATION

Group pricing all around us

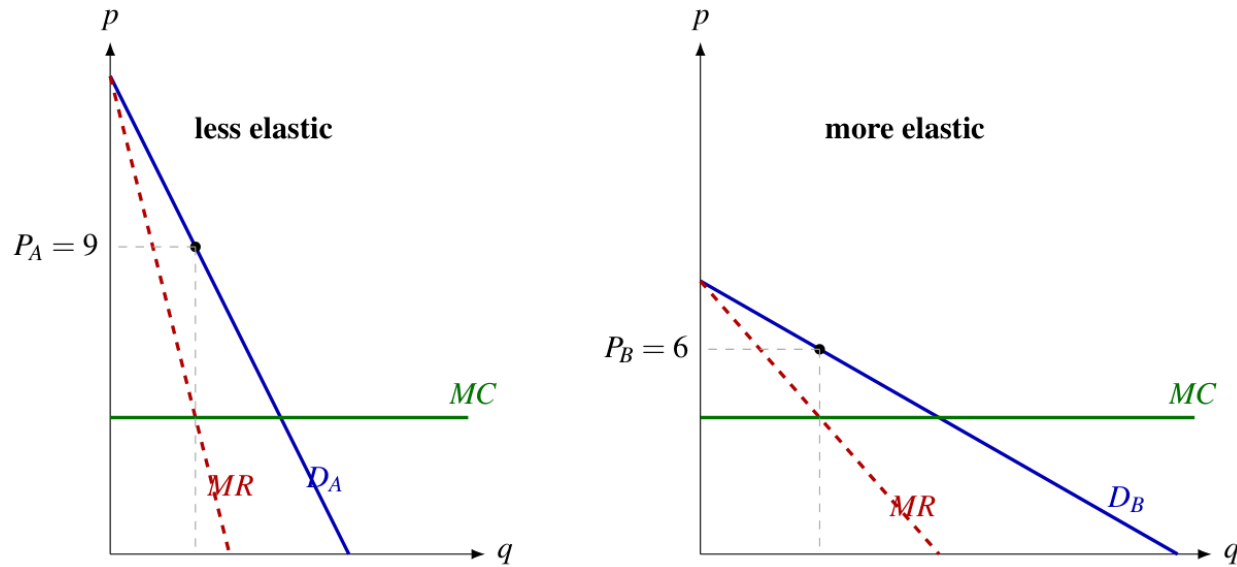
- Student, senior, and child discounts, these groups have lower or more price-sensitive demand.
- Matinee versus evening movie prices; peak versus off-peak fares.
- Lower drug prices in poorer countries.

COUPONS

Coupons are a clever variant. By clipping a coupon, a shopper signals she is price-sensitive enough to spend the effort, and earns a lower price; the less price-sensitive shopper does not bother and pays full price. Buyers sort themselves into groups.

12.4 THIRD-DEGREE PRICE DISCRIMINATION

Two markets, two prices



- The firm splits buyers into two markets with different elasticities.
- Higher price where demand is less elastic; lower price where it is more elastic.
- Each market gets the price its responsiveness calls for.

Figure 12.2 The firm charges a higher price in the less elastic market and a lower price in the more elastic one.

12.4.1 A WORKED TWO-MARKET EXAMPLE

Software: businesses vs. students

Group	Demand	Will pay	Price set
Businesses	inelastic	up to \$200	\$200
Students	elastic	only ~\$30	\$30

A software firm tells the two groups apart (student ID) and resale is hard.

WHY IT EXCEEDS ONE PRICE

A single price forces a painful choice, set it high and lose all students, or low and leave business money behind.

Charging \$200 to businesses and \$30 to students collects the most each will bear: more than any single price could earn. The higher price goes to the less elastic group.

12.4.1 A WORKED TWO-MARKET EXAMPLE

Everyone served, the firm earns more

THE OUTCOME

Everyone is served, the firm earns more, and the students get software they could not have afforded at the business price, the same mixed verdict as in Section 12.3.1.

SELF-CHECK

A cinema sells to students (elastic demand) and adults (inelastic demand). Which group should pay the higher price, and why?

Adults. With less elastic demand they cut back little when the price rises, so the profit-maximizing markup is larger for them; price-sensitive students get the discount. The firm charges the lower price in the more elastic market.

12.5

Second-Degree Price Discrimination

- A menu, not a label
- Quantity discounts
- Versioning into tiers

12.5 SECOND-DEGREE PRICE DISCRIMINATION

Let buyers reveal themselves

■ Second-degree price discrimination

When the seller cannot tell groups apart, it offers a menu and lets buyers reveal themselves through their choices.



Quantity discounts

Cheaper per unit in bulk.



Versioning

A basic, standard, and premium tier, economy / premium economy / business class; free / pro / enterprise editions.

12.6

Bundling and Two-Part Tariffs

- Selling several goods together
- The two-part tariff
- Why bundling raises profit

Two related strategies

■ Bundling

Selling several goods together for a single price, a cable package, an office software suite, a season ticket. It raises profit when buyers' valuations differ but partly offset one another.

■ Two-part tariff

A fixed fee plus a per-unit price, a warehouse club's membership plus groceries, a theme park's entry plus in-park spending, a printer plus its ink. The fixed fee captures surplus; the per-unit price keeps the buyer buying.

12.6.1 WHY BUNDLING RAISES PROFIT

Step 1: selling the channels separately

Customer	Values sports	Values movies
Sports fan	\$15	\$3
Film fan	\$2	\$14

A cable company sells a sports channel and a movie channel to two customers.

BEST SINGLE PRICES

Sports channel: charge \$15, sell one (to the sports fan) for \$15; charge \$2, sell two for \$4. So \$15 is best.

Movie channel: earns most at \$14, again selling one.

Separate selling: $\$15 + \$14 = \$29$.

12.6.1 WHY BUNDLING RAISES PROFIT

Step 2: bundle the two channels

Customer	Values the bundle
Sports fan	$\$15 + \$3 = \$18$
Film fan	$\$2 + \$14 = \$16$

Price the bundle at \$16 and both customers buy it.

BUNDLING WINS

Pricing the bundle at \$16 sells it to both:
revenue = $2 \times \$16 = \32 .

That exceeds the \$29 from separate selling.

It works because valuations are negatively correlated, each loves one channel and shrugs at the other, so the bundle smooths out their differences.

12.6.1 WHY BUNDLING RAISES PROFIT

The lesson: negatively correlated values

THE GENERAL LESSON

When buyers' valuations are negatively correlated, the bundle lets the firm capture more of the total they are collectively willing to pay than selling each item alone.

This is why software suites, cable packages, and season tickets are so common.

12.7

Case Study: How Airlines Charge Many Prices for One Cabin

Yield management, price discrimination at its most refined.

Two groups, very different demand



Business travelers

Trips are urgent, expensable, and price-insensitive, inelastic demand.



Leisure travelers

They plan ahead and shop hard on price, elastic demand.

THE GOAL

Passengers in a single economy cabin have often paid wildly different fares, even though their seats are nearly identical. The airline's goal: separate these two groups, a practice they call yield management.

12.7 CASE STUDY

Rules that make travelers sort themselves

- The airline cannot ask which type you are, so it designs rules, a blend of the group and menu pricing of Sections 12.4 and 12.5.
- Cheap fares require booking weeks ahead and, classically, a Saturday-night stay, easy for a leisure traveler, impossible for one flying out Monday, back Thursday.
- Refundable, last-minute, and business-class fares cost far more and are bought mostly by those with inelastic demand.

The same seat, sold under different restrictions, fetches the high price from those who will pay it and the low price from those who would otherwise not fly.

12.8

Empirical Evidence: Price Dispersion and Online Pricing

How much do prices for the same good actually vary?

12.8 EMPIRICAL EVIDENCE

Fare dispersion points to discrimination

- Borenstein and Rose (1994) studied the airline industry.
- They asked how much fares differ between two passengers on the same route.
- Dispersion was greater on more competitive routes.

36%

expected fare gap between two passengers, as a share of the average ticket price

More

dispersion on more competitive routes

WHY IT'S DISCRIMINATION

If cost differences drove the gaps, competition would shrink them. That dispersion **RISES** with competition points to price discrimination instead.

The internet sharpens the sorting

THE ORBITZ EPISODE

In 2012 the travel site Orbitz found that customers browsing on Apple computers spent as much as 30% more per night on hotels than Windows users, and began steering Mac users toward pricier options.

- Orbitz stressed it showed different choices, not different prices for the identical room.
- Still, the digital traces buyers leave, device, location, history, let firms approximate the personalized pricing of Section 12.3.
- Online price discrimination stays limited by competition and by consumer backlash when it seems unfair, the fairness concern from Chapter 2.

Key takeaways

1

When it's possible

Market power, the ability to separate buyers, and no resale.

2

First degree

Each buyer pays her maximum; no consumer surplus, but output reaches the efficient level.

3

Third degree

Group pricing by elasticity: the higher price goes to the less elastic group.

4

Second degree

A menu, quantity discounts and versioning, lets buyers sort themselves.

5

Bundling & tariffs

Bundling pays when valuations are negatively correlated; two-part tariffs split a fixed fee from a per-unit price.

6

Evidence

Airline yield management, 36% fare dispersion (Borenstein–Rose), and online personalized pricing.