PRICING STRATEGIES

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SUMMARY

- Elements that impact pricing
- Market power
- Price discrimination
- How to measure demand

FIRMS DECISION

PROFIT

$$\Pi = pQ(p) - cQ(p) - F$$

MAXIMIZING PROFIT

$$\frac{\partial \Pi}{\partial p} = Q(p) + (p - c)\frac{\partial Q(p)}{\partial p} = 0$$

PRICING EQUATION

$$p = c + \frac{1}{-Q'(p)\frac{1}{Q(p)}}$$

$$\frac{p-c}{p} = \frac{1}{-Q'(p)\frac{p}{Q(p)}}$$

$$\frac{p-c}{p} = \frac{1}{\epsilon}$$

THINGS TO NOTE

Let's unpack this

1. What is c? Does it matter in your case?
2. What determines how much p can go above c
3. What about F?

SOME CONCLUSIONS SO FAR

- Fixed costs don’t matter for pricing decisions
- In many aplications c will be close to 0
- Price your products according to demand - not cost

MARKET POWER

For our purposes: The ability to maintain price above c

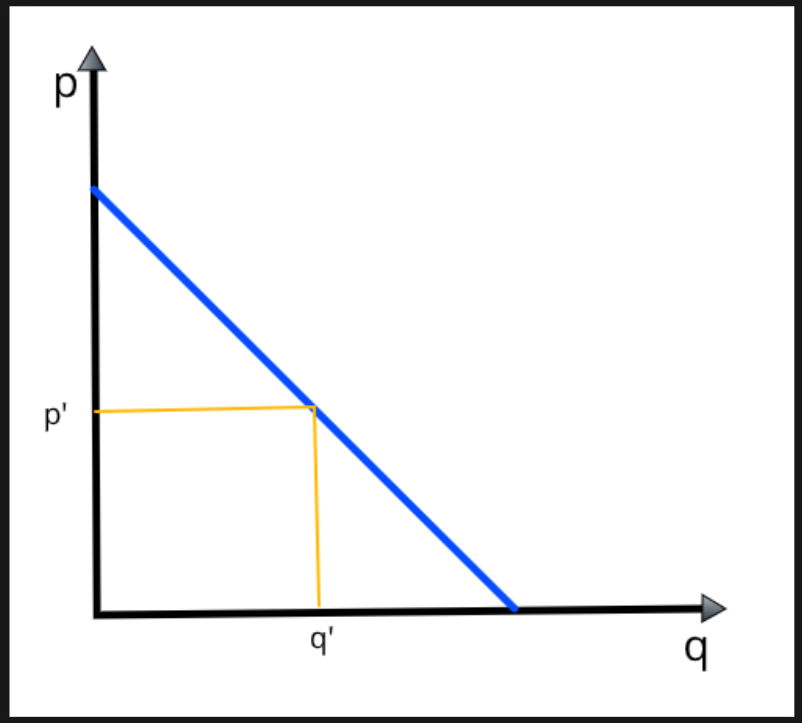
- Differentiate your product
- Price discrimination
  - First degree price discrimination - personalized pricing
  - Second degree price discrimination - menu pricing (versioning) , bundling, tying, …
  - Third degree price discrimination - group pricing

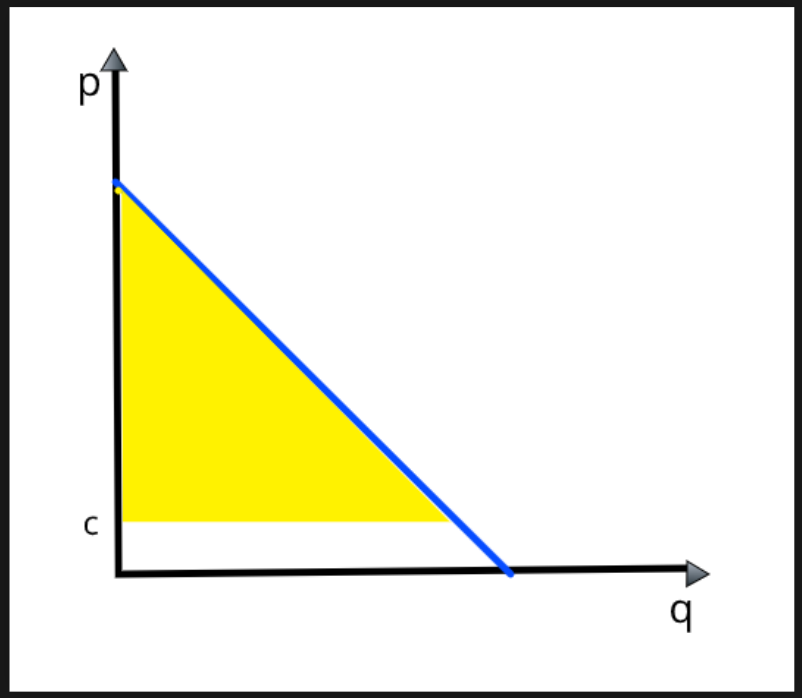
(First, second, third - Pigou (1920) terminology)

PRICE DISCRIMINATION - PERSONALIZED PRICING

PERSONALIZED PRICING

Know your customer



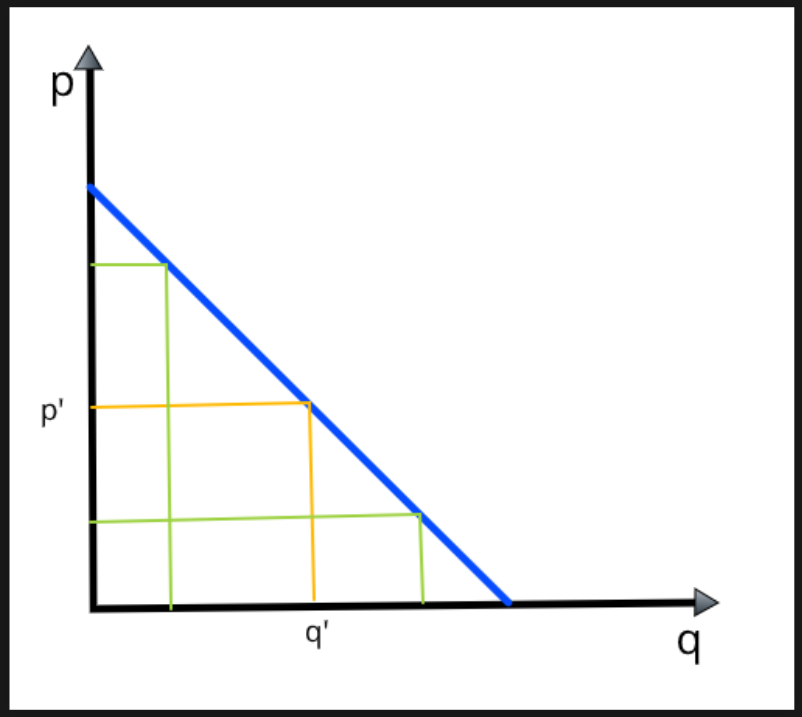


Onlines sales usually allow the tailoring of offers given past sales of information supplied.

They also allow you to test directly the sensitivity of demand using taylored discounts.

PRICE DISCRIMINATION - GROUP PRICING

GROUP PRICING



- Note:
  1. the different groups cannot trade between themselves (no arbitrage).
  2. the different groups must be identified based on observable information.
- Examples:
  1. Students discounts
  2. Spatial discrimination

PRICE DISCRIMINATION - MENU PRICING

MENU PRICING

- Also refered to as second degree price discrimination, versioning, non-linear pricing,…
- Includes variants as quantity discrimination, quality discrimination, intertemporal discrimination, bundeling, tying.
- The seller is not able to identify the characteristics of the different buyers
- Offers are built so that consumers self select thus revealing their preferences.

MENU PRICING - QUANTITY

- Quantity discrimination - non-linear prices
  - Two-part tariffs: $T(q) = A + pq$
  - Examples: utilities, printers and toners, razor blades, medical devices and medical equipment

MENU PRICING - QUALITY

DUPUIT (1849)

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It is not because of the few thousand francs which would have
to be spent to put a roof over the third class carriages or
to upholster the thrid class seats that some company or other
has open carriages with wooden benches... What the company is
trying to do is to prevent the passengers who can pay the
second class fare from travelling third class: it hits the
poor, not because it wants to hurt them, but to frighten the
rich... and it is again for the same reason that the
companies, having proved almost cruel to third class
passengers and mean to second class ones, become lavish in
dealing with first class passengers having refused the poor
what is necessary, they give the rich what is superfluous.
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Quoted by Ekelund (1970) Jules Dupuit (1804-1866)

MENU PRICING - QUALITY

Examples:

- Software industry - free degraded versions vs paid professional versions
  - Also other elements at play here - network effects
- Damaged goods: IBM Laserprinter E - set to print more slowly
- Insurance and coverage
- Plane tickets: 1st class, 2nd class

MENU PRICING - INTERTEMPORAL PRICE DISCRIMINATION

- First introduce products with high price and later with low price (books)
- Demand uncertainty

PRATICAL MEASUREMENT TOOLS

FIND OUT MORE ABOUT $Q(P)$

LOOK AT HOW CONSUMERS HAVE BEHAVED

1. PROS
   - Large datasets of purchase data collected in firms IT systems or otherwise available data on market behaviour
   - Usually low cost of getting data

2. CONS

- Data comes from market equilibria - hard to tell whether observations reflect demand or supply
- Can only analize existing markets and existing products
- Little variation in valiables of interest
- Complex statistical models required

FIND OUT MORE ABOUT $Q(P)$

ASK CONSUMERS HOW THEY WILL BEHAVE

1. PROS
   - Can analize any market or product existing or new - provided consumers know how to decide in the context
   - Data is “designed” by the analist to fit the purpose and directly reflects demand
   - Simple statistical analysis

2. CONS
   - Data is stated behavior rather actual behavior
   - Non-standard surveys required

EXAMPLE

- Survey asks respondents to choose between a small set of products
- The process is repeated severeal times with different products
- Products are built to force respondent to make trade-off between aspects of interest
- Valuation for aspects of interest is **inferred** from respondent decisions **not** stated by respondent
- Respondents perform decisions very similar to actual daily life decisions

EXAMPLE

	Policy A	Policy B	No protection
Logging	150,000 ha	0 ha	300,000 ha
	Half these species go extinct	None of these species go extinct	All these species go extinct
Poaching	0 ha	150,000 ha	300,000 ha
	None of these species go extinct	Half these species go extinct	All these species go extinct
Floods in Perak	3 per year	1 per year	5 per year
Jobs created in Perak	5,000	7,500	7,500
Cost to you	RM6 per month	RM6 per month	No cost

Vincent, J. R., Carson, R. T., DeShazo, J., Schwabe, K. A., Ahmad, I., Chong, S. K., Chang, Y. T., Potts, M. D., 2014. Tropical countries may be willing to pay more to protect their forests. Proceedings of the National Academy of Sciences 111 (28), 10113-10118.

Ribeiro, T., Corsi, A., Lockshin, L. et al. Analysis of consumer preferences for information and expert opinion using a discrete choice experiment. Port Econ J 19, 67–80 (2020).

Scenario 1/24

We are interested in knowing how students like you make choices about their future and specifically about investing in advanced education.

Please review the components of each program described below and answer the 3 questions at the bottom of the screen.

Attribute	Program A	Program B	Program C
Ranking	Finantial Times top 100	Not ranked	Not ranked
Generic/Specific	MSc Finance	MSc Marketing	MSc Marketing
Duration	1 year equivalent	1 year equivalent	2 years equivalent
Full/Part-time	Full-time	Part-time weekends	Part-time evenings
International accreditation	No	Yes	Yes
Internship included	Yes	No	No
Merit scholarships	Available	Available	Not available
Employment prospects	100 % employed upon termination	100 % employed upon termination	80 % employed after 3 months
Total Fees	21 000 EUR	5 000 EUR	21 000 EUR

Master

THANK YOU