ECON 120
Cheat Sheet Test 4

Optimization $\frac{MUx}{Px} = \frac{MUy}{Py}$

Things have helpful value. For suppliers, units of **product**. For consumers, units of **utility**. Optimize the **marginal product/utility per dollar**.

Accounting profit = **econoimc profit** minus economic (implicit) costs – opportunity costs incurred from not doing things. Specifically: cost of people's time, cost of money's time (interest/risk)

Profit maximizing for factors is the same process with marginal product

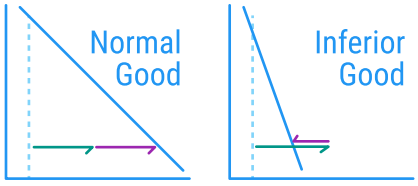
Supply and Demand

S+ → P-Q+ S- → P+Q-
D+ → P+Q+ D- → P-Q-
S+D+ → P?Q+ S-D- → P?Q-
S>D → P+Q? D>S → P-Q?

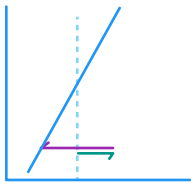
Sum of individual curves. Individual from indifference / budget curves

Consumer Behaviour

Two effects when price goes down:
substitution (always up)
income (depends on elasticity)



Inferior demand curve *can* slope up.



Giffen goods are super essentials. **Conspicuous consumption** goods are super luxury goods.

PPFs

Opp. cost = dA/dB. Unemployment moves point inwards, not PPF

Linear PPF
Perfectly efficient resource re-allocation.

Bowed Out PPF
Inefficient. Opportunity cost increases with production.

PPF Expands
Tech advancement, population increase.

PPF Contracts
Resource loss, population decrease.

Game Theory

If π(coop) > π(mixed), there is a coop equilibrium.
If π(cheat) > π(mixed), there is a cheat equilibrium.

20/20	25/5
5/25	0/0

Eq: 0/0 (cheat)

30/30	25/5
5/25	0/0

Eq: 30/30 (cooperate)

30/30	25/5
5/25	8/8

Eq: 8/8, 30/30 (both)

Factor Markets

Measure factors of production with **human/physical capital** (stock) which produce cash flow. MRP = MR × MP (revenue gained per extra unit of production) acts as a **demand**, apply normal supply/demand graph stuff.

Factor mobility is how easily factors are repurposed to another industry and erodes **temporary differentials**.

Equilibrium differentials don't change. Intrinsic (features) vs acquired (invest) vs compensating (non-monetary diffs). e.g. hazard pay or wage discrimination

Labour Markets

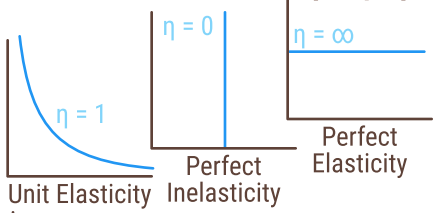
Monopsonies are monopolies but upside-down, with one ~~seller~~ buyer. Set MC=MRP and charge AC.

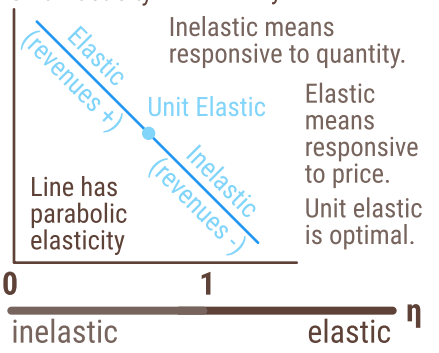
Minimum wages create unemployment.

Unions collectively bargain to get higher wages, offset surplus by **featherbedding** (hiring useless workers) or advertising.

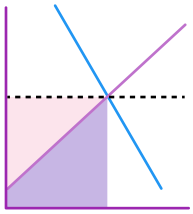
Elasticity

....of demand $\eta = \frac{(dQ/Q)}{(dP/P)}$





Produced capital = **transfer earnings** (opportunity cost of using factor) + **economic rent** (extra cost)



High η = more transfer earnings

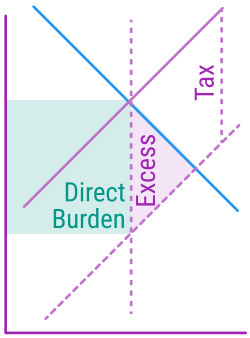
Capital Markets

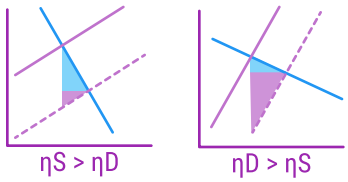
Interest is the "price" of capital.

Apply supply/demand with **interest rate and investment** instead of price and quantity

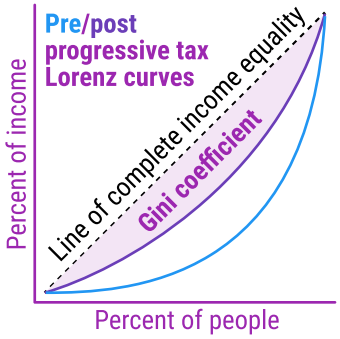
Taxation and Inequality

Taxes shift supply. Less elastic curve absorbs more tax burden. Revenue = **direct burden** and DWL = **excess burden**. **Laffer curve** shows diminishing direct burden.





Inequality measured by Lorenz curve between people and income (area = Gini coefficient).



Taxes change inequality if marginal rate ≠ average rate.

Progressive marginal > avg **Proportional** marginal = avg **Regressive** marginal < avg
Worst is **poll tax**, constant for everyone. Taxes aim to be equitable and efficient.

Cross-Elasticity

Good X's demand over good Y's price
Complements are goods that are used together.
Substitutes are good sthat can replace each other.

Income Elasticity

Calculate the same but instead of price use income
Inferior goods are those people buy less when rich
Necessities are staples that everyone needs

This cheat sheet is brought to you by Pain and Agony (*°▽°*) CC-BY-SA James Ah Yong & Mahbod **Moe** Sabbaghi, 2020

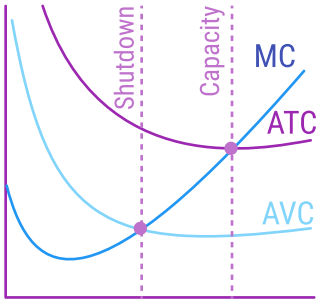
Supply

Define time scales based on how many things are variable — in the **short run** some factors are variable. In the **long run**, all factors are variable. In the **very long run**, the method of prooduction itself is variable.

Short Run

A supplier's costs can be variable or fixed, so: **TC = TFC + TVC**.

Express wrt quantity: **ATC = AFC + AVC**



These are minimized when they cross the **marginal cost** curve (ΔTC/ΔQ).

Firms must pay FC no matter what, so if MC < AVC, there's no point in staying open so the firm shuts down (distinct from exiting when long-term is unviable)

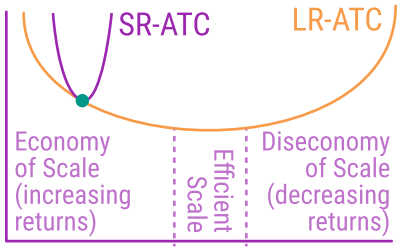
Very Long Run

Changing the LR-ATC's shape is possible. Technological advancements can move the curve downwards, reducing costs for every possible production level.

Long Run

All possible short-run cost curves' respective minimum points create a **long-run average total cost curve**. Minimized point where marginal products per dollar are equal.

LR-ATC decreases → MC (lowest SR-ATC point) decreases → returns to scale increase.



Productive Efficiency

A **firm** is **productively efficient** if it is producing at minimal cost (P = SRATC = LRATC).

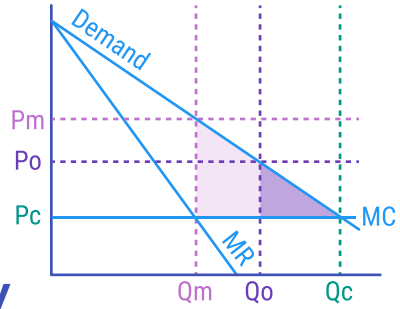
A **market** is productively efficient if all firms have the same MC and is producing **on the PPF**.

Monopolistic competition has indeterminate efficiency because of differentiation.

Allocative Efficiency

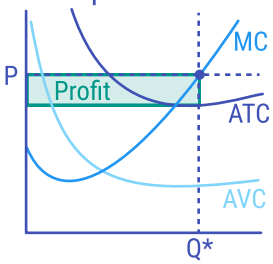
Economy/market is **allocatively efficient** if P = MC and no DWL.

Competition > Oligopoly > Monopoly



Perfect Competition

Firms are small wrt market, so can sell infinite product at market price. Products are homogenous; easy enter/exit.



Produce where MC = MR = P.

Profit/Loss = Q×(MC−ATC) *at (P, Q)*

In the long run, since firms can easily exit and enter, *supply always tends to the equilibrium price*.

LRS = min(LRATC), exit if P < LRS

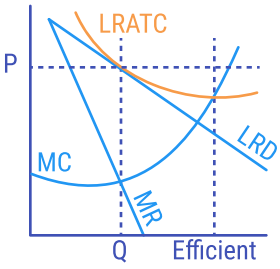
Market is **allocatively and productiely efficient**

Firm graph is only externally affected by price and costs

Monopolistic Competition

Firms that have monopoly on a differentiated product.

Acts like a monopoly in short run, perfect competition in long run since firms freely enter and exit until profit is zero.

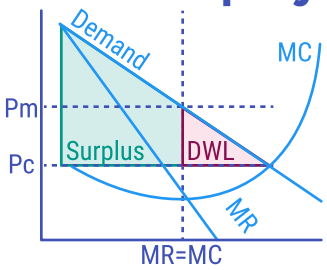


Firms always produce less than "efficient" scale in the long run (i.e. with excess capacity) because demand is downward sloping and LRATC slope = demand slope.

Differentiation (through adverts) makes demand less elastic, increasing profits.

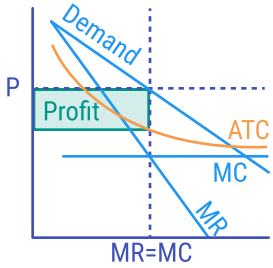
Impossible to know efficiency because of differentiation

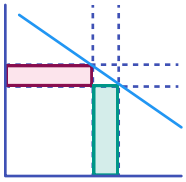
Monopoly



Set price where MR = MC. Monopolies come about **naturally** with utilities / specific manufacturing / economies of scale, or can be **created** through gvmt action / IP rights / trade groups.

Profit/Loss = Q×(P−ATC)





Any change creates **price** and **output** effects: total revenue goes up when output > price

Not allocatively efficient always productively efficient

Set price where MR = MC. **Natural** with utilities / specific manufacturing / economies of scale, or **created** through gvmt action / IP rights / trade groups.

Governments can allocatively optimize with **P = MC** but this causes losses and monopolists exit the industry. Or set **P = ATC** but that is not allocatively efficient and halts investment. **Two-part tarrifs** = fixed price + marginal price.

Oligopoly

Monopoly in short term, perfect competition in long term.

Balance between more production = more profit and over monopoly quantity = less for everyone. **Explicit collusion** is illegal, usually termed **cartels**. Implicit or **tacit collusion** is not. **Oligopolies are defined as 4-firm concentration > 40%**

Price Discrimination

It's most efficient to **perfectly price discriminate** by selling to everyone at demand so entire ∫ D−ATC is profit.

That's usually impossible (except for airlines etc.) so **imperfect price discrimination** buckets customers. More elastic demand gets lower price.

Putting effort into moving between buckets is **hurdle pricing** so people with more marginal utility put in effort.