

* phrasing & definitions

1. dd + ss

- marginal benefit: benefit gained from consumption of additional unity
- marginal cost: cost incurred from production of an additional unit
- production / consumption makes sense up till $MB = MC$ (maximisation of utility, rational actors)
- **productive efficiency**: when all available resources are fully + efficiently employed to achieve the max output possible
- all points on LRAC + PPC are PE
- **allocative efficiency**: when society produces and consumes the right combination of goods and services that maximises welfare
- $P = MC$ and $MSB = MSC$
- **demand**: amount that consumers are willing + able to purchase at each given price over period of time
- **supply**: quantity of goods + services that producers are willing + able to offer for sale at each given price over period of time

determinants of demand

- Population: change in population size / composition affects market
- Expectations of future incomes + prices
- Tastes + preferences: affected by advertising, can be permanent or temporary
- Related goods' prices: complements vs. substitutes vs. derived demand (i.e. XED)
- Income: normal vs. inferior goods (YED)
- Others: interest rate, exchange rate, govt policy (e.g. taxes vs subsidies)

substitute: a commodity that can be used in place of another: satisfies same want, competitive in demand

complement: a commodity used in conjunction with another: jointly demanded to satisfy same want

determinants of supply

- Cost of production
- Related goods (competitive / joint supply)
- Innovation - new technology
- Natural factors (drought / flood etc)
- Govt policies (taxes, subsidies)
- Expectations of consumers

income effect: effect of change in price of g/s on quantity demanded as result of change in real income (i.e. increase in price leads to decrease in purchasing power)

substitution effect: effect of a change in price on quantity demanded arising from consumer switching to or from alternative products

elasticities

- **PED** - responsiveness of dd of a good to a change in its own price
- **PES** - responsiveness of qty supplied of a good to a change in the commodity's own price
- **YED** - change in consumers income
 - $YED > 0$: normal good
 - $YED < 0$: inferior good

- $0 < YED < 1$ → income inelastic i.e. % increase in income produces less than proportionate rise in qty dd (necessities)
- $YED > 1$: income elastic i.e. % increase produces more than proportionate rise in qty dd
- **XED** - change in the price of another good
 - $XED > 0$: two goods are substitutes (increase price in one = increase demand for other)
 - $XED < 0$: two goods are complements (increase in price one = fall in demand for other)
 - $0 < XED < 1$: not close substitutes
 - $XED > 1$: close substitutes (i.e. value of XED shows extent of substitutability)

1. determinants of PED

- Substitutes
- Habitual consumption
- Income: % spent on good
- Time period
- **usefulness**: able to analyse the effects of a price change arising from change in govt policy or firms pricing policy
- if demand for product is price inelastic, c.p. firms should raise price to maximise total revenue
- If demand for product is price elastic, c.p. firms should lower price (gentle vs steep slope)
- PED and marketing: firms may seek to make demand for good less price elastic (i.e. reducing its substitutability by other goods)
- timing of pricing + marketing decisions: SR: demand relatively price inelastic i.e. firm can adopt price adjustment strategy vs. LR: demand more price elastic i.e. firm should focus on product innovation or mktg strategies
- PED and tax: lower price elasticity = greater govt revenue (e.g. cigarettes → habitual consumption)

2. determinants of YED

- degree of necessity
- nature of good dependent on the level of income of consumer (e.g. good can be luxury to lower income, normal to higher income)
- **usefulness**: help govt predict demand patterns / project changes in policies

3. determinants of XED

- determined by the relationship b/w two goods i.e. substitutability
- **usefulness**: pricing policies
- e.g. firm's product has high XED relative to rival product → firm will have to respond to changes in the price of the rival's product
- if firm lowers price of his good: firm has to respond by lowering price of own good to prevent loss
- marketing sales strategies: make good less substitutable or for complementary foods, link mktg plans to pricing policy of other firms (e.g. collaboration, package deals)

4. determinants of PES

- time period
- factor mobility
- stocks + spare capacity
- length of production period
- **application**: agricultural vs manufactured goods

price adjustment process

- at prices above the equilibrium price, qty supplied exceed qty demanded
- surplus in the market, producers are unable to sell + consumers unwilling to buy output at original price
- exerts downward pressure on prices, until new equilibrium price is reached

- at prices below equilibrium, qty demanded exceeds qty supplied
- surplus in market, consumers will compete and drive up price + producers willing to increase qty supplied at higher prices
- exerts upwards pressure on prices, until new equilibrium price is reached

price floor

- legally established min price that must be established above existing mkt eqm to be effective
- e.g. minimum wage
- **aims**: achieve equity by protecting welfare of certain groups + create consistent surplus so that stocks will be accumulated (e.g. prepare for future shortages)
- **problems**: allocatively inefficient → DWL distorts price signals, creating illusion of lucrative market
 - producers become complacent
 - may attract new producers, creating excessive surplus
 - stock storage = waste of money

price ceiling

- legally established min price that must be established above existing mkt eqm to be effective
- **aims**: achieve equity by keeping prices of good affordable to majority, stabilise prices, prevent suppliers from exploiting market bt raising prices
- **problems**: allocatively inefficient, distorts price signals, emergence of black market
- e.g. rent controls

consumer surplus: area under demand curve — price

producer surplus: area above supply curve — price

2. firms

- dynamic efficiency: technological progressiveness + innovation → schumpeter
- X-efficiency: cost-efficient maximisation of output under highly competitive markets → leibenstein
- PE society: firm produces at the MES
- PE firm: firm produces anywhere on the LRAC
- maximise profit: $MR = MC$
- maximise revenue: $MR = 0$
- maximise growth: $P = AC$, $AR = AC$ (i.e. normal profit)
- maximise society's welfare: $P = MC$

firm's objectives

- profit-maximising behaviour + non-traditional objectives
 - principle-agent problem leading to satificing behaviour
 - nationalised industries / social enterprises = social equity
 - growth maximisation

cost theory

- **internal EoS**: savings in cost that occur as result of firm's expansion → technical, marketing, financial
 - financial: large firms have higher sales volume, more assets to offer as collateral: hence deemed more credit worthy → offered more loans at lower interest rates
 - marketing: bulk purchase of inputs = lower prices, higher quality
 - bulk distribution of products through large modes of transport = lower per unit delivery costs
 - higher output = lower per unit advertising costs
 - administrative: lower per unit admin costs → do not rise significantly w output
 - risk-bearing: diversification to reduce risk → able to spread out over a variety of industries / markets (esp. if conglomerate / merger)
 - technical: specialisation through division of labour
 - lower per unit fixed costs of machinery → based on scale of output
 - more resources available for R&D
- **external EoS**: savings in cost that occur to all firms as result of the expansion of the industry or the concentration of firms in a certain location
 - concentration: when firms carrying out similar activities are concentrated in an area, people may move to the area (i.e. ready pool of skilled labour — mining towns)
 - better infrastructure set up to meet industry needs, lowering operating costs
 - information: firms can share cost of R&D
 - disintegration: specialisation through division of production processes among firms
- **disEoS**: increase in cost (same phrasing)
 - internal: management difficulties → principle-agent problem, communications breakdowns, long chains of authority
 - external: high input prices → increased demand / competition for FOP results in higher input prices, esp if supply of inputs is limited + price-inelastic
 - increased strain on infrastructure: concentration + expansion of firms may result in overcrowding, pollution etc

barriers to entry

- prevents or impedes the entry of firms into an industry and thereby enables existing firms to have an advantage over potential new entrants

- **natural monopoly**: continuously falling AC = large MES
 - monopoly already operating on larger scale (substantial int eos) vs. new entrants (higher unit COP)
 - high TFC → high output = lower average fixed cost = lower average total cost = larger MES
 - i.e. monopoly can lower prices to ward off competition
- **legal barriers**: patents, copyrights, franchises
- **control of key FOP**: denial of access through vertical integration + ownership
- **strategic entry deterrence**: product differentiation
 - decreased substitutability via investments in R&D / advertising → established brand identity / loyalty
 - price cutting / price wars

firm	revenue	cost
small	1. niche market <ul style="list-style-type: none"> - specialised products that will lose appeal if mass produced - services requiring individual attention 2. subcontracting for larger firms: providing infrastructural support 3. products where variety is preferred (MPC, product differentiation)	1. limited economies of scale <ul style="list-style-type: none"> - low fixed costs involved - MES at low output 2. faster response to economic downturns
large	1. high pricing power due to large market share <ul style="list-style-type: none"> - demand curve more price inelastic - able to employ strategies like predatory pricing 2. better able to conduct non-price competition <ul style="list-style-type: none"> - e.g. by investing supernormal profits in R&D + advertising - builds up brand image + customer loyalty → dd even more inelastic 	1. presence of substantial EoS <ul style="list-style-type: none"> - high start-up costs + capital intensive production - MES at high output 2. significant BTE

growth + merger

- **vertical** integration (different stages of production process) → backwards vs forwards
 - **backwards**: control over quality / qty of raw inputs
 - **forwards**: control over distribution, raise standards of market outlets
- **horizontal** integration: goal of market dominance in the same processes
- **franchising**: expansion without personal investment / liability → stronger incentives for franchisers (personal stake), eliminates principal-agent problem
- **conglomeration**: firms not directly related
 - benefit lies in diversification of output (greater scope) + spread of risk / fluctuations in certain markets
- small firms can coexist with large firms if:
 1. presence of niche markets allows for small firms to survive amidst competition
 2. vertical disintegration results in large firms subcontracting to smaller ones
 3. no substantial cost advantages for being large i.e. LRAC has a gently falling portion over large output or saucer-shaped (flat base)
 - small MES: high degree of competition, room for many firms
 - large MES: only room for few big firms
 - constant returns to scale: coexistence

price discrimination

- occurs when a firm charges different prices for the same product when they are not a result of cost differences
- conditions: different markets (segregation into different + identifiable groups) w different price elasticities of demand, firm must have monopoly or sizeable market share, no resale b/c arbitrage
 - **first** degree: each unit sold at max price buyers are willing to pay
 - DD = AR curve also becomes MR curve: additional revenue from each unit sold = full price consumers willing to pay
 - **second** degree: higher prices for initial units and lower prices thereafter (i.e. block pricing)
 - **third** degree: charging different prices in different markets (e.g. concession fares)

benefits

- extra profits for firm
- allocative efficiency achieved in 1st degree: p-max output is increased to where $P = MC$
- possibility of supply even when AC lies above AR, due to extra profit generated to cover costs
- 3rd degree makes it possible to supply a more price elastic market i.e. consumers less willing to buy good can purchase at lower price
 - positive externalities: if merit goods involved (e.g. public transport, medical services)

disadvantages: loss of consumer welfare (1st degree: complete reduction of consumer surplus) i.e. not equitable

3. mkt structure

features	pc	mpc	oligopoly	monopoly
no. of firms	many buyers + sellers perfect information insignificant mkt share = no control over price (price taker)	many firms w insignificant market share each - prevents collusion - independence of firms: decisions will not affect each other significantly	few dominant firms: mutual inter-dependence i.e. each firms' decisions will also affect rival firms → rival consciousness needed in decided market strategy (price rigidity, npc)	only one producer, asymmetric info i.e. no consumer sovereignty, consumer surplus appropriated by firm
type of pdt	homogenous: perfect substitutes, no variety	product differentiation - real: e.g. custom services - imaginary: e.g. branding - generally not R&D: no supernormal profit in LR	no specific type: can be either homogenous or differentiated differentiated pdt → less substitutability , demand more inelastic	unique, no close substitutes
dynamic	no: only normal profits earned in LR (AR = AC) perfect info = adoption by others, no revenue incentive	minimal: SR profits not sustained bc freedom of entry for new firms small scale innovation: imperfect info, rivals may not copy all	yes: gain competitive edge, even if only temporary	yes, but may lack incentive due to lack of competitive pressures no guarantee that R&D will succeed

features	pc	mpc	oligopoly	monopoly
X-efficiency	yes	yes	yes	uncertain: lack of competitive pressures may lead to complacency
BTE	none	none	high	monstrous
allocative	yes	no, but relatively less bad	no	no
productive	yes to all but depends on firm vs society's POV: may not necessarily produce at MES in fact may choose to restrict output to raise prices (if oli / mono)			
MES	always produces at MES	excess capacity theorem : each firm serves too small a market to be able to fully exploit EoS firms end up producing at higher AC than needed b/c attempts at pdt differentiation	possibly will produce at MES if minimum point of LRAC happens to intersect w profit-maximising output (i.e. coincides w $MC = MR$)	
other merits	no product variety, but reacts responsively to consumer dd	wider consumer choice / variety	substantial EoS may lead to cost savings (significant fall in MC): can be passed on to consumer in form of lower prices	

diagrams1. PC - SR supernormal2. PC - LR normal3. supernormal profit4. subnormal profit

oligopoly

- **kinked demand curve theory**: assumes no collusion, homogenous pdt, rival firms match price decrease but not increase
- **merits**: explains price rigidity
 - if firm increase price above eqm P_e : rivals unlikely to follow, qty dd for Firm A to decrease more than proportionately ($PED > 1$) → gentler demand curve above P_e
 - if firm decreases price below P_e : rival firms will match price reduction, qty dd for Firm A increases but less than proportionate ($PED < 1$)
 - if MC within the discontinuous region changes, firms must absorb costs i.e. existing price / output combination is unchanged
- **criticisms**: does not explain how eqm price / output obtained in the first place

non-price competition

- product development + innovation: firms try to maintain profits through developing better quality products
- process innovation: firms raise profits by developing more cost-effective forms of production
- marketing, advertising, promotions: create perception of product differentiation for consumers
- difference in conditions of scale: condition + location of shops, quality of service etc

cooperative models

1. collusion

- decreases unpredictability, increases profits of group as whole by limiting competition: agree on how to charge + how to divide market
- works best with stable market conditions, similar COP amongst participants, policing og agreement
- **cartels**: formal collusion to set one fixed price by restricting total industry output (production quotas)
 - fragility of agreement = incentive to cheat, raise profit above joint levels
 - result: increased market supply, drop in prices, collapse of collusive agreement
- tacit collusion i.e. **price leadership** → firms follow pricing of a recognised leader

2. price wars: usually last resort: costly to wage, unsustainable

- predatory pricing usually used to eliminate new competitors

monopolistic competition

1. short run supernormal to long run normal

- ease of entry allows firms to enter industry, attracted by supernormal profit
- firms sell pdts that are **potential substitutes**
- dd for each firm's pdt goes down, dd becomes more price elastic (gentler curve)

assessing performance

criteria

1. allocative efficiency
2. productive efficiency (society + firm)
3. dynamic efficiency
4. equity (distributive efficiency)
5. consumer choice

1. pc vs non-pc

2. monopoly vs mpc

3. PC vs monopoly / MPC

4. comparing equity

theory of contestable markets

- hit + run tactics: enter quickly + withdraw to maintain supernormal profits
 - firm paranoia: may choose not to set such high prices
- failure to be as cost-efficient as possible turns potential competition into actual competition (e.g. airline industry, open skies policy)
- i.e. regardless of industry domination by 1 firm, may still behave competitively so long as the market is contestable

do we like oligopoly?

- allocatively inefficient: wasteful duplication (two firms competing for same market)
- productively inefficient (same as monopoly): risk of X-inefficiency especially in powerful cartels
- inequity: concentration of profits + mkt share allows firms to engage in anti-competitive behaviour
 - profit motive: collusion / price discrimination reduces consumer surplus
- dynamically efficient (✓): non-price competition encourages innovation + significant BTE to protect → e.g. legal barriers (patents, licencing)
 - willingness + ability to engage in R&D
 - consequentially leads to wider variety of consumer choice (or illusion of choice: branding)

do we like mpc?

- allocatively inefficient but to a lesser extent because of gentler curve
- dynamic efficiency: incentive, but less ability (i.e. occurs on minor scale → packaging etc)
- advertising: if truthful + provides better consumer info, helps move market towards ideal PC model (perfect information)
- X-efficient (✓): must operate on LRAC because of LR normal profits → i.e. must be as efficient as possible to maximise profits
- equity (✓): low BTE means normal profits shared by many across the industry

4. **mkt failure**

- allocative inefficiency: over / underallocation of resources, does not maximise society's welfare
- **market failure**: market fails to allocate resources effectively + achieve social goals
- **govt failure**: may worsen allocative efficiency instead due to
 - politicians motivated by self-interest / electoral pressures instead of society's interest
 - **imperfect information**: governments may not know the full costs / benefits of policies, exact monetary value of externalities, level of demand for public good
 - **costs** of administration + enforcement may outweigh social benefits of policies
 - **time lag** due to bureaucracy + inefficiency may cause policies to be ineffective / too late
 - overdependence on GI: vicious cycle of intervention

issue	policy	evaluation
<p>public goods</p> <ul style="list-style-type: none"> - non excludable: impossible or prohibitively expensive to exclude non-payers from consuming a good - free-ridership problem: consumers will not reveal price - absence of price signal: producers will not supply good - i.e. missing market: must be provided by govt - non-rivalrous: benefits enjoyed from a good are not depleted by additional users - $MC = 0$, so $P = MC = 0$ i.e. good must be provided for free 	<p>direct provision of public goods e.g. street lighting, national defence</p>	<p>pros</p> <ul style="list-style-type: none"> - govt control over the supply of merit / public goods - can influence quality + access (i.e. social objectives) <p>cons</p> <ul style="list-style-type: none"> - difficult to determine the exact quantity of a public - increases burden on taxpayers (fiscal) - inefficient production: employees of state have less incentive to keep costs as low as possible (no profit motive) - i.e. allocative inefficiency persists
<p>Externalities are costs or benefits from production or consumption experienced by society, but not by producers or consumers themselves</p> <p>negative externalities</p> <ul style="list-style-type: none"> - individual / firm when deciding whether to do something only considers his MPC - however, there is also an EMC, which includes (X) - since individual only considers his MPC and not MEC, he equates $MPC = MPB$ in equilibrium, consuming qty Q of (good) - however social efficiency requires $MSC = MSB$, with the socially efficient output at Qs - hence: there is overconsumption / production of Q - Qs units of (good) in equilibrium with a social cost of ABQQs - results in deadweight loss of area ABC 	<p>1. tax govt can impose tax equal to the MEC, so that the externality is internalised</p>	<p>pros</p> <ul style="list-style-type: none"> - market-based solution i.e. still allows the market to operate, reach new stage of equilibrium - market based instruments provide greater flexibility + financial incentives for behavioural changes - ensures firms / consumers bear full cost of their actions - provides incentive for firms to find ways to reduce MEC b/c they are taxed on basis of external cost - generates tax revenue → transfer payments, community devt <p>cons</p> <ul style="list-style-type: none"> - difficult to measure and quantify MEC in monetary terms to determine size of taxes - unfeasible to have one-size-fits-all tax: MEC may vary b/w various parties - if dd price inelastic, taxes may not cause qty dd to fall significantly - govt may not want to impose sufficiently high tax (politically unpopular, business lobby)

issue	policy	evaluation
1. <u>-ve ext in pdtn</u>	2. subsidy govt can impose a subsidy equal to the MEB * +ve ext production <ul style="list-style-type: none"> - govt lowers the private cost of R&D by levying subsidy of amount equal to MEB - producer shifts supply curve from MPC to MSC - underproduction corrected, free mkt eqm Qs (DWL eliminated) 	pros <ul style="list-style-type: none"> - still allows market to operate - ensures that society receives full benefits of consumption - increases both consumer + producer surplus: everyone benefits cons <ul style="list-style-type: none"> - difficult to measure + quantify the MEB in monetary terms to determine size of subsidies - breeds inefficiency: firms lack incentive to find lowest COP - increases burden on taxpayers
2. <u>-ve ext in consumption</u>		
3. <u>+ve ext in pdtn</u>	* +ve ext consumption <ul style="list-style-type: none"> - subsidies to producers = lower MPC to public - b/c producers transfer their savings from govt grants to consumers (lower prices) 	
4. <u>+ve ext in consumption</u>	* -direct subsidy to consumer <ul style="list-style-type: none"> - subsidy of amount MEB provided to consumers - dd curve shifts: MPB → MSB, consumption at socially optimal levels - underallocation corrected, exty internalised, DWL eliminated 	

issue	policy	evaluation
	<p>3. marketable permits govt estimates the socially efficient output, then decides on number of marketable permits to issue</p> <p>each permit allows firms to produce a certain amount of -ve externalities: firms can buy + sell the permits with prices determined by market forces</p>	<p>pros</p> <ul style="list-style-type: none"> - internalises MEC by establishing a market for it - provides incentives for firms to find ways to reduce MEC - direct imposition of quota more effective than taxes: cut-off can be progressively lowered by govt, granting flexibility in addressing magnitude of problem <p>cons</p> <ul style="list-style-type: none"> - difficult to measure MEC in determining number of permits released - enforcement of limits - funds for non-compliance must be sufficiently punitive - mkts made less competitive or monopolised: small firms unable to pay for permits sold buy also lack funds to invest in green tech - firms with greater financial power may see no incentive to cut back on emissions <ul style="list-style-type: none"> • supernormal profit, can absorb costs + often are the most guilty parties
<u>quota diagram</u>	<p>4. regulation / ban</p> <ul style="list-style-type: none"> - quotas: limits on the qty produced to cut off production of good at Qs - i.e. limits impact of the exty - total ban: only beneficial if welfare loss from it is less than deadweight loss under free market - others: setting safety standards, mandating compulsory actions <p>cons</p> <ul style="list-style-type: none"> - does not create market-based incentive for firms to lower size of exty <ul style="list-style-type: none"> • i.e. pollution reduced at higher cost compared to carbon tax • no organic incentive to switch to cleaner tech 	<p>pros</p> <ul style="list-style-type: none"> - simple to implement, avoids technical difficulties by directly limiting amount produced - greater certainty in achieving targeted output: compelled to comply <p>cons</p> <ul style="list-style-type: none"> - quota displaces price mechanism i.e. output levels do not correspond to change in price - mkt mechanism cannot perform signally function - in absence of price signals, onus on govt to predict the socially desired lvl of output - enforcement difficult to implement: requires regular verification (high procedural costs)

issue	policy	evaluation
imperfect info i.e. partial market failure (consumption — merit goods!)	5. education & campaigns <ul style="list-style-type: none"> - correct imperfect info: raise awareness of spillover impacts, shift MPB to MSB 	pros <ul style="list-style-type: none"> - addresses root cause - complements other solutions cons <ul style="list-style-type: none"> - expensive + LT method: no guarantee of achieving desired outcomes, esp in SR - inappropriate for unrgent matters, must be accompanied by more direct measures - difficulties in disseminating info, loopholes to deceive remain <ul style="list-style-type: none"> • e.g. tobacco industry
market dominance <ul style="list-style-type: none"> - inefficiency arises in imperfect markets esp monopolies - allocative inefficiency: $P > MC$ resulting in deadweight loss of ABC - society values additional units of good at $ABQeQ$ more than cost to produce them (i.e. $CBQeQ$) - may lead to X-inefficiency: supernormal profits covers costs i.e. lack of competitive pressure to be cost efficient <ul style="list-style-type: none"> - however: may be tolerated in this is a natural monopoly - i.e. market size allows for only one firm to operate at the MES - OR monopoly is able to reap substantial economies of scale / achieve dynamic efficiency → i.e. perform better than a PC firm 	1. impose lump sum tax <ul style="list-style-type: none"> - fixed amount = fixed cost to firm (shifts AC upwards) - supernormal profit reduced from 1 + 2 to 1 alone - if exceeds demand curve at a, all profits go to govt 2. antitrust laws <ul style="list-style-type: none"> - prohibit formation of monopolies (EU + google) - prevent anti-competitive behaviour (e.g. predatory pricing) <ul style="list-style-type: none"> • singapore competitive commission 	<ul style="list-style-type: none"> - while supernormal profits contribute to income inequality, they are useful in providing incentive + means for R&D - R&D necessary for potential growth → may conflict w other economic goals (EG)

issue	policy	evaluation
	<p>3. managing output</p> <ul style="list-style-type: none"> - either through per unit tax or subsidy - curtail / encourage <p>4. price regulation</p> <ul style="list-style-type: none"> - MC pricing: $MC = MB$ i.e. Q_s - however, monopoly may face losses unless govt subsidies given / 2-tier pricing practiced - AC pricing: lowest possible price for monopoly to break even - however! is not Q_s (though still an improvement) - dilemma wrt price setting may lead states to choose to nationalise and operate at AC pricing <p>5. lowering BTE govt can create a contestable market through deregulation eg. open skies</p>	<ul style="list-style-type: none"> - firms may overstate COP in order to charge higher prices / continue to retain profit

welfare loss:

- **-ve externalities**: excess of $MSC > MSB$ for amt of good produced (i.e. resources used to produce $Q_e Q_s$ exceed the gains in benefit from consumption) → overproduction
- **+ve externalities**: dollar value of benefits derived from $Q_e Q_s >$ dollar value of resources required to produce $Q_e Q_s$ (i.e. allocatively inefficient) → underproduction
- **merit goods**: goods deemed to good + desirable for consumers but under-consumed
 - info failure
 - inability to pay: unregulated free market system depends on dollar vote → basis of minimum entitlement, merit goods should be avail to all
 - +ve externalities in consumption: disregarded in pursuit of self interest
- **public goods**: goods difficult to provide commercially through the marketplace because non-rivalrous + non-excludable
- **demerit goods**: goods that govt deems to be undesirable for consumers + rest of society (e.g. alcohol, cigareetes)
- **private goods**: goods that can be provided by the market