AF3625 Cheatsheet ⚠ Closed-book!!

limited res. unlimited wants → make choice, forgo oppo (oppo. cost)

T1

Economics = social science, study the choice when cope with scarcity, ② the incentives that influence choices, ③ arrangement of coordination

- micro ~ = indi, business, interact & be influenced by gov
- macro ~ = aggregate effect, national & global economy

Q: What / How / For whom / How much

res:
- Labour = Mental & physical human effort
- capital = Human made products for production
- resource = Natural res.
- Entrepreneurship: Org. risk bearing

- Benefit = ~ willing to give up
- Cost = ~ must give up
- OC = the highest-valued alternative forgone.

Demand: relationship (price & Q demanded

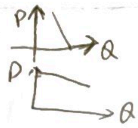
- indi D:
  - consumer's income → inferior/normal
  - price of related goods → substitutes/complements
  - consumer's taste.
  - expected future price
- market size

Supply

- indi S:
  - cost of production
  - technology
  - price of related → complement/substitude
  - expected future price
- market size

T2

$e = \frac{\Delta Q_D \%}{\Delta P \%}$ abs: <1 inelastic; >1 elastic



- ava. & closeness of sustitudes
- Degree of necessity
- Budget share
- Time (2nd law of demand)

$e_{cross} = \frac{\Delta Q_d(Y)\%}{\Delta P(X)\%}$ >0 sub. ; <0 comple.

$e_{income} = \frac{\Delta Q_d \%}{\Delta income \%}$ >0 normal ; <0 inferior

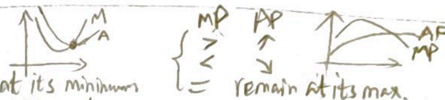
T3

Law of diminishing returns

(SR) ↑ variable factor ↗ MP (division of labour) —eventually→ ↘ MP

MC > / < / = ATC: ↑ / ↓ / remain at its minimum

MP > / < / = AP: ↑ / ↘ / remain at its max.



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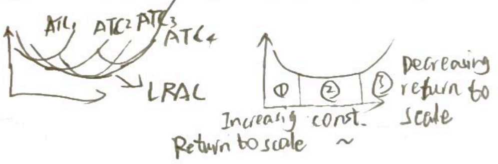


① Increasing return to scale ② const. ~ ③ Decreasing return to scale

①
- Technical economies: indivisibility of capital (eg. machine)
- Managerial ~: indiv. managerial labour
- Marketing ~: more favorable terms of transact.
- Financial ~: better access to fin. res.

③
- Problem of coordi. & control
- find its existing market insufficient, costly to develop new.

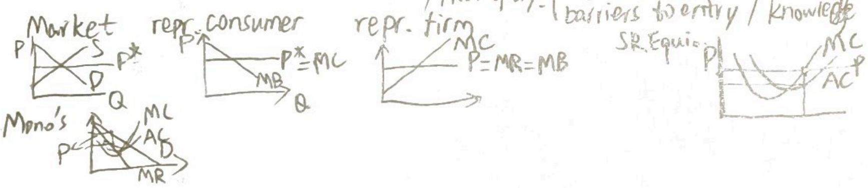
T4

PS = R − TVC   Profit (π) = PS − TFC

perfect competition / monopoly?
- number of firms
- degree of product differentiation
- barriers to entry / knowledge

- ownership (exclusive control ...)
- Legal barrier
- Natural barrier

- pert. compet.: Market / repr. consumer / repr. firm / SR Equi.
- monopoly: Mono's



T5

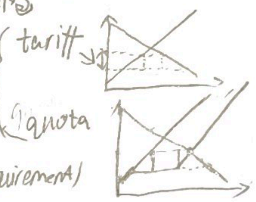
globalization (PS↑ while CS↘)
- International trade (D↑)
- Foreign Direct Investment / outsourcing (TC↓) 外商直接投资 外包

- Benefit & cost not evenly distri
- Benefit as a whole

- Export: consumer rel. smaller loss & freeriding
- Import: producer, rel. larger loss → defend together

Gov intervention on import/export: dis↘ / encourage

Gov ex/import Interfere
- make less competitive & less available eg. tariff / quota
- domestic more comptitive (eg. exp. subsidy)
- Creating trouble (eg. local content / admin policies/requirement)



T6

- preference of current consump
- productivity of fin capital

→ Time value of money (i) interest rate

Investment project (require purch. phy capital)

$X = Y(X/Y, i\%, N)$

FP:
- $F/P = P(1+i)^N$
- $P/F = F(1+i)^{-N}$

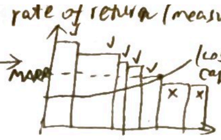
uni series:
- F/A: $\frac{(1+i)^N - 1}{i}$
- P/A: $\frac{(1+i)^N - 1}{i(1+i)^N}$
- A/F: $\frac{i}{(1+i)^N - 1}$
- A/P: $\frac{i(1+i)^N}{(1+i)^N - 1}$

Uni Gra Series
- P/G: $\frac{1}{i}(P/A - \frac{N}{(1+i)^N})$
- * F/G: $\frac{1}{i}(F/A - N)$
- A/G

Nominal interest rate (Annual Rate, APR)

Effective interest rate (

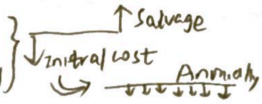
T7 evaluation of projects
- PW
- FW
- AW
- Internal Reture Rate — should reach MARR ($\approx i$) (The best altern.'s rate of return) →



method of evaluation
- PW — PW>0 (CW: $PW_{N \to \infty}$)
- FW — FW>0
- AW — AW>0

AW = (A)R(s) − (A)E − (A)CR(i)

annual equiv. revenue/savings ~ Expenses ~ annual capital recovery — (annual equiv. cost of capital invested)
- asset depreciation
- Forgone interest (at MARR)



T8

Mutually Exclusive Alternatives = invest. projects ... same purpose/task, with comparable performance/quality, only one of them to select

- type
  - Investment A. PW(MARR) must positive, select largest
  - Cost Alternatives. PW is neg. select with min abs(PW)

or Incremental Analysis: Base alternative: requires min invest. Then next larger invest. can be justified to its incremental benefits

Internal Rate of Return method.

IRR ≥ MARR: acceptable

IRR < MARR: reject

Analysis Period
- equal lives: = usefull lives
- unequal lives:
  - Repeatability assumption
    - = LCM, PW/FW/AW
    - = ∞, AW
  - co-terminated ~
    - < study period — cost alternative / Investment ~
    - > Truncate