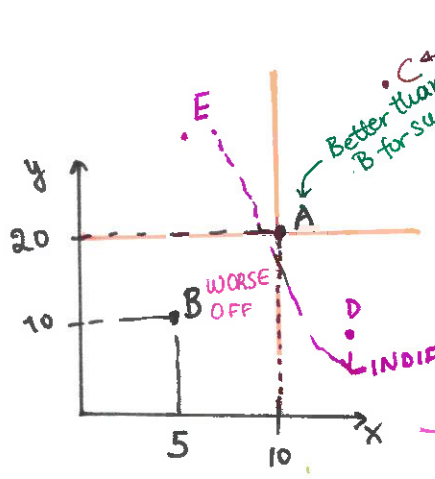
INDIFFERENCE CURVE

What is UTILITY?

Consumption of (x,y) BUNDLES → "SATISFACTION" → UTILITY!!



u(10,20) > u(5,10)

2 TYPES OF UTILITY

UTILS — How I measure utility?

unobservable!

CARDINAL — MAGNITUDE/SIZE IS MEASURED IN UTILS

E.g. u(10,20) − u(5,10) = 100 UTILS? IMPOSSIBLE!

E.g. u(10,20) > u(5,10) > u(1,2) TRUE

ORDINAL (ORDER) — RANKING OF BUNDLES

What? CURVE

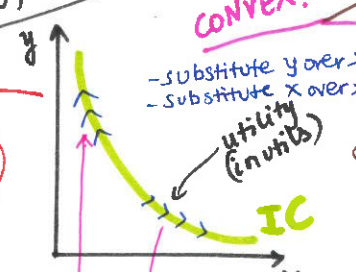
A graph!

B1: (X0, Y0); B2: (X1, Y1) — Different BUNDLES

(10,20) vs. (30,16) — Consumer is INDIFFERENT!

Deriving the IC

CONVEX!



- Substitute y over x ⇒ FLATTER!
- Substitute x over y ⇒ STEEPER!

Why is it like this?

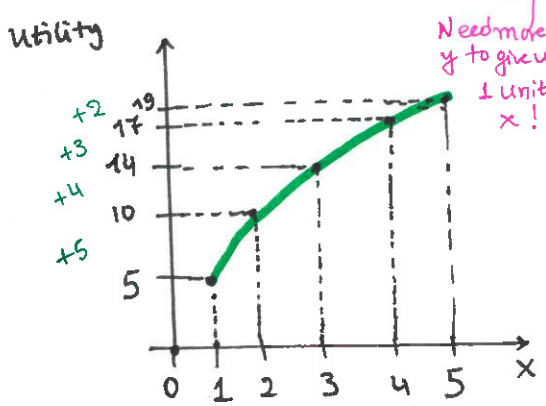
DIMINISHING MARGINAL UTILITY FROM x & y

Need more y to give up 1 unit of x!

Need more x to be willing to give up one y!

COBB DOUGLAS IC

↳ $U(x,y) = x^a \cdot y^b$ where a+b=1



Willing to substitute x for y when utility loss in X = utility gain in y

$-dx \cdot MU_x = dy \cdot MU_y$

$\therefore \frac{dy}{dx} = \text{SLOPE of IC} = \frac{MU_x}{MU_y}$

MRS

DYNAMICS

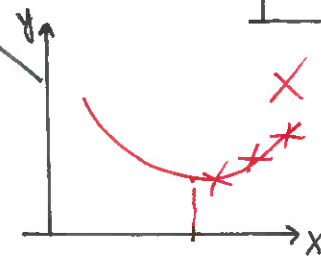
BLISS POINT! max satisfaction point where an individual can go

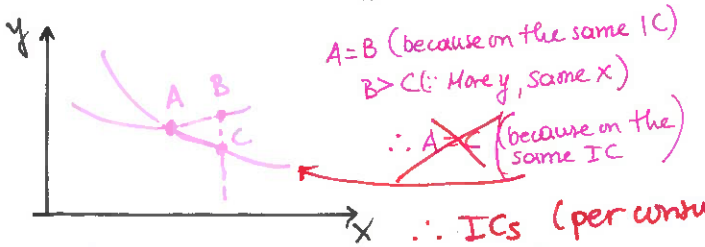
Prefer x

Prefer y

NEVER INTERSECT

NEVER UPWARD SLOPED





A=B (because on the same IC)

B>C (∵ More y, same x)

∴ A>C (because on the same IC)

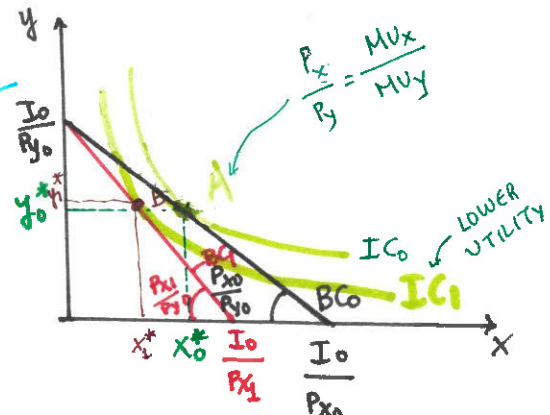
∴ ICs (per consumer) DON'T INTERSECT

IC + BC

Initial EQM — max U

Disturbance — eg $P_{x_1} \uparrow$ $P_{x_1} > P_{x_0}$

Final EQM



- At $A(x_0^*, y_0^*)$ utility is **max** given I_0, P_{x_0}, P_{y_0}
- At $B(x_1^*, y_1^*)$ utility is **max** given I_0, P_{x_1}, P_{y_0}

TOTAL EFFECT

- SUBSTITUTION EFFECT
- INCOME EFFECT

Hicksian vs Slutsky Definition of real income

Map 4 / 16 (2020)