

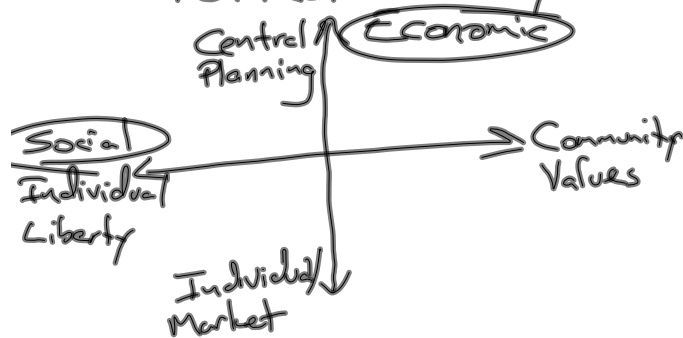
Last class

- Economics
 - ↳ study of unlimited wants w/ limited resources.
 - Study of choice.

Three components:

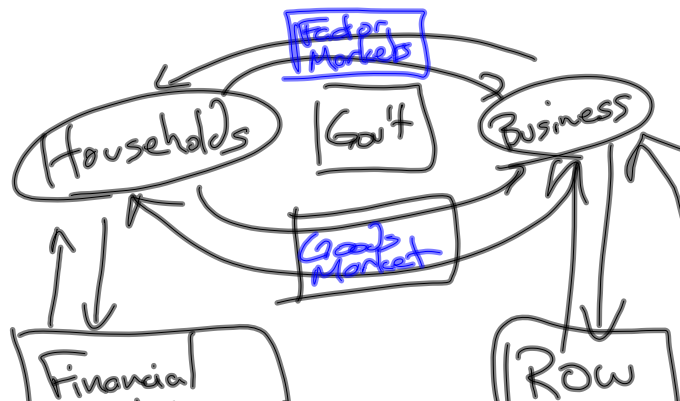
- Economics as a moral science
 - ↳ "ought" [Normative]
- Economics as a science
 - ↳ "is" [Positive]
 - ↳ Microeconomics
 - ↳ Macroeconomics
 - ↳ Econometrics

- Political Economy



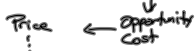
Economic Institutions

↳ formal & informal rules that constrain or mandate human economic behavior



Today's Lecture

- Scarcity → Choice



Trade

- Economic Efficiency
- Production

Scarcity

- Action

↳ There is a scarcity of everything.

- Time

- 40 hours a week
↳ Class vs. Work

Class	Work
0	40
5	35
10	30
15	25
20	20
...	...
40	0

Scarcity → Choice → Opportunity Cost

Class	Work	Opportunity Cost
0	40	-
5	35	-5 For every hour spent in the classroom, you're losing 5 hours of work
10	30	-10
20	20	-20
40	0	-40

Opportunity Cost

- The cost of one choice versus other choices that could be made.

Accounting Cost

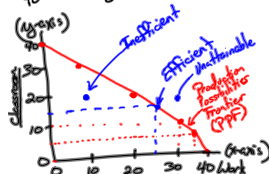
- The monetary cost (money) of the action you chose.

Economic Cost = Accounting Cost + Opportunity Cost

Marginal Opportunity Cost

↳ Marginal - one the point of change.

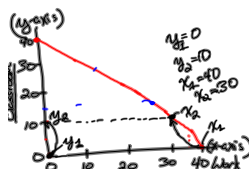
Class	Work	Marginal Opp. Cost
0	40	-
5	35	5 hours of work
10	30	5 hours of work
15	25	-
20	20	-
25	15	5 hours of class
30	10	5 hours of class
35	5	5 hours of class
40	0	-



The slope along any two points on this line is the marginal opportunity cost:

$$\text{slope} = \frac{\text{rise}}{\text{run}} = \frac{y_2 - y_1}{x_2 - x_1}$$

Ex: What is the slope between 0 hours in the classroom and 10 hours in the classroom?



$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{10 - 40}{30 - 40} = \frac{10}{-10} = -1$$

Interpreting slope

$$\text{slope} = \Delta = \frac{\Delta y}{\Delta x}$$

↑
Delta

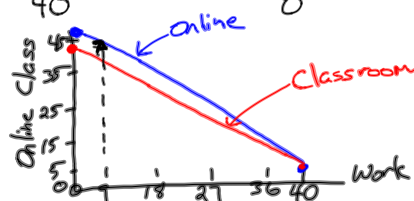
For every unit change in the x-axis, Δ is the change in the y-axis.

→ For every one hour increase at work, you lose 1 hour in class.
 $\Delta = -1$

Role of technology

Ex: Online classes

Work	Online Class	Classroom Class
0	45	45
9	31.5	35
18	27	25
27	22.5	15
36	18	5
40	0	0



→ Technology changes the marginal opportunity cost in this example.

Ex: What is the marginal opportunity cost of moving from 0 hours in online courses to 10 hours?

$$y_2 = 10 \quad x_2 = 22.5$$

$$y_1 = 0 \quad x_1 = 40$$

$$\Delta = \frac{10-0}{22.5-40} = \frac{10}{-17.5} = -0.57$$

For every hour extra we spend at online classes, we lose 0.57 at work.

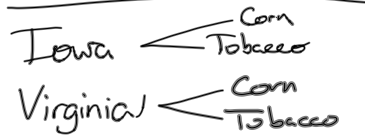
Before, we lost an hour now we lose a half-hour at work.

↳ Our marginal opportunity cost has decreased.

Course Website

tomschenkjr.net

Trade

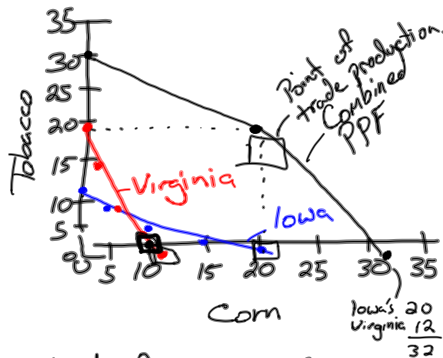


For Iowa, the PPF is:

Corn	Tobacco
0	12
5	9
10	6
15	3
20	0

For Virginia:

Corn	Tobacco
0	20
3	15
6	10
9	5
12	0



What if Iowa and Virginia engaged in trade?

- Iowa has a lower marginal opportunity cost to produce corn compared to Virginia
 - Virginia " " " " to produce tobacco compared to Iowa
- Iowa produces 20 bushels of corn, Virginia 20 bushels of tobacco.
- With trade, both states can consume beyond their individual PPF.

