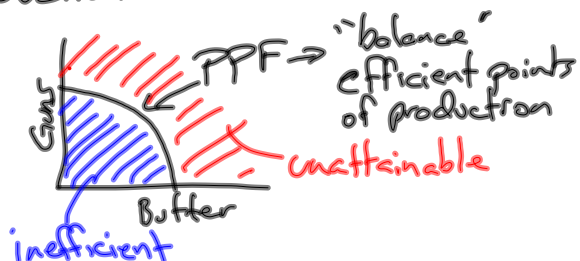# Review of last class

Scarcity → Choice → Opportunity Cost
↓
Price

Production Possibilities Frontier

PPF → "balance" efficient points of production

unattainable

inefficient

Guns / Butter

The PPF is a function of technology.

└ Trade can benefit two or more parties (i.e., states, countries, etc.)
  └ How: Consume beyond their individual PPFs.
    └ Necessary Conditions:

Local Resources → Comparative Advantage → Specialize
↓
Trade
↓
Consume more

Today

− More on price.
− Supply ⇄ Demand
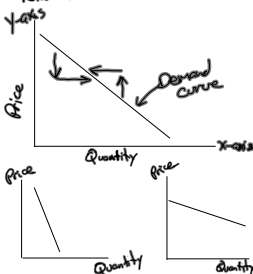 Firms   Households
− What will the price be?
− Markets

Supply & Demand

Demand (e.g. consumers)
- How do consumers act in the economy?
- Price : amount demanded

Law of Demand
- As price rise, people buy less.
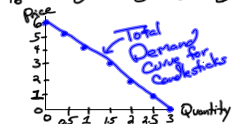- As price fall, people buy more.

Law of Demand

Price of goods and the amount (quantity demanded) are inversely related.

Individual demands builds towards a total demand.

Ex: Candlesticks

Price	Jack		Jill		Peter		Total Demand
$0.	- 1	+	1	+	1	=	3
$1	- 1	+	1	+	0.5	=	2.5
$2	- 1		1		0		2
$3	0.75		0.25		0		1.5
$4	0.5		0.5		0		1
$5	0.5		0		0		0.5
$6	0		0		0		0

Formula: $= 3 - (\frac{1}{2}) \times Price = Qd$

(Quantity Demanded)

When Price = $0,
$$Qd = 3 - (\frac{1}{2}) \times (0)$$
$$= 3 - 0 = \boxed{3}$$

When P = $1
$$Qd = 3 - (\frac{1}{2}) \times (1)$$
$$= 3 - (\frac{1}{2}) = \boxed{2.5}$$

Remember from Algebra
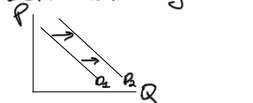
$$Y = a + MX$$
- value on y-axis
- a = intercept
- M = slope
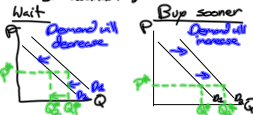- X = value on x-axis.

$$Qd = 3 - (\frac{1}{2}) \times P$$
- intercept (value of Qd when P=0)
- slope (as P↑ by $1, Qd↓ by ½)
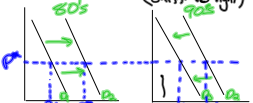
Table vs. Graph vs. Formula

Demand can change.

① Expectations of price or availability

Wait — Demand will decrease
Buy sooner — Demand will increase

② Tastes (popularity)

Popularity rises, Demand will increase (shift to right)

80's   90's

③ Price of related goods
- Substitutes
- Complimentary

④ Income
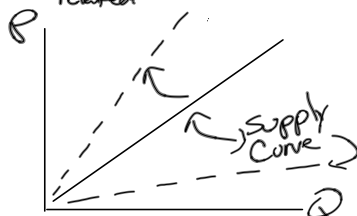Generally as income ↑, D↑ unless it's inferior.

⑤ Taxes & subsidies

Supply (firms)

└ As price rises, the quantity supplied rises.
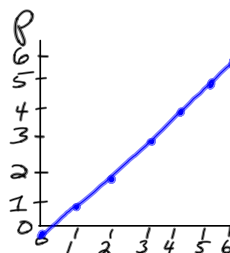└ As price fall, the quantity supplied falls.

Law of Supply

└ Price's quantity are positively related
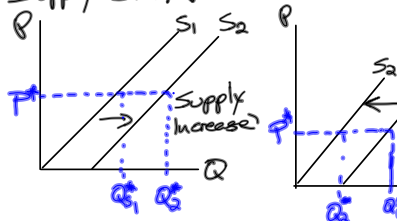

P	Candlesticks & More		Candlestick Warehouse		Candlestick World		Total Supply
$0	0	+	0	+	0	=	0
$1	1	+	0	+	0	=	1
$2	1		1		0		2
$3	1		1		1		3
$4	1		1		2		4
$5	1		2		2		5
$6	2		2		2		6

Formula: $Q_s = P$

Quantity Supplied

Supply shift ↓

① Expectations

② Number of sellers

③ Price of inputs

Input price ↑ , Supply ↓
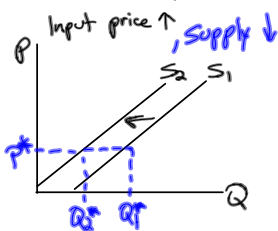
④ Technology
   New/better tech. increases supply.

Markets

└ A good or set of goods where there is supply _and_ demand.
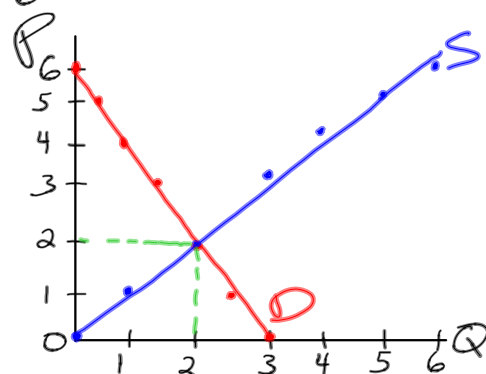   └ How much is supplied?
    └ How much is the price?

Ex: Candlesticks

Equilibrium Price →

Price	Quantity Demanded	Quantity Supplied
$0	3	0
$1	2.5	1
$2	2	2
$3	1.5	3
$4	1	4
$5	0.5	5
$6	0	6

Equilibrium: $Q_S = Q_D$

$$\rightarrow P = 3 - \left(\tfrac{1}{2}\right) \times P$$
$$+\left(\tfrac{1}{2}\right) \times P \qquad +\left(\tfrac{1}{2}\right) \times P$$

$$P + \left(\tfrac{1}{2}\right) \times P = 3$$

$$(1.5) \times P = 3$$

$$\div 1.5 \qquad \div 1.5$$

$$P = \frac{3}{1.5}$$

$$\boxed{P = 2}$$

Q_S

$Q_S = P$

$$\boxed{Q_S = (2)}$$

Q_d

$$Q_d = 3 - \left(\tfrac{1}{2}\right) \times P$$
$$Q_d = 3 - \left(\tfrac{1}{2}\right) \times 2$$
$$= 3 - 1$$
$$\boxed{= 2}$$