Market Equilibrium

Now have market demand and supply:

Demand	Supply
$Q_M^D(P)$	$Q_M^S(P)$

Give Q^D and Q^S for every possible price P

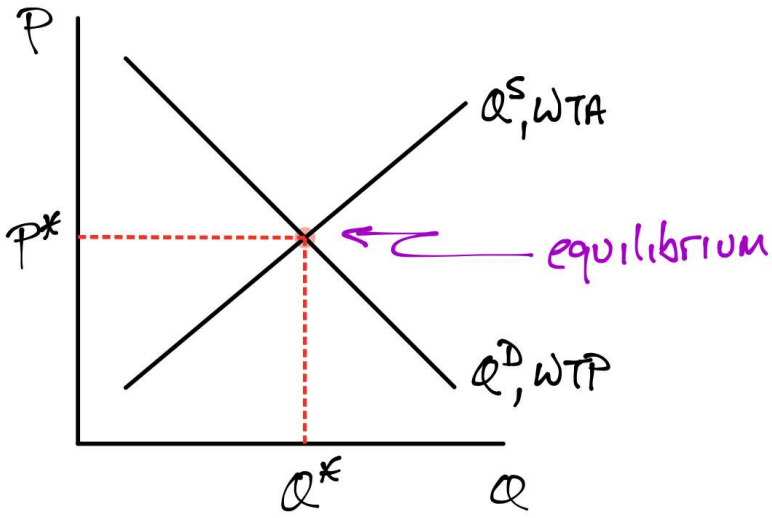
Can use to find *equilibrium price* P^* where Qs are equal:

Solve for P^* that makes $Q_M^D(P^*) = Q_M^S(P^*)$

Corresponding Q is the *equilibrium quantity* Q^*:

$Q_M^D(P^*) = Q_M^S(P^*) = Q^*$

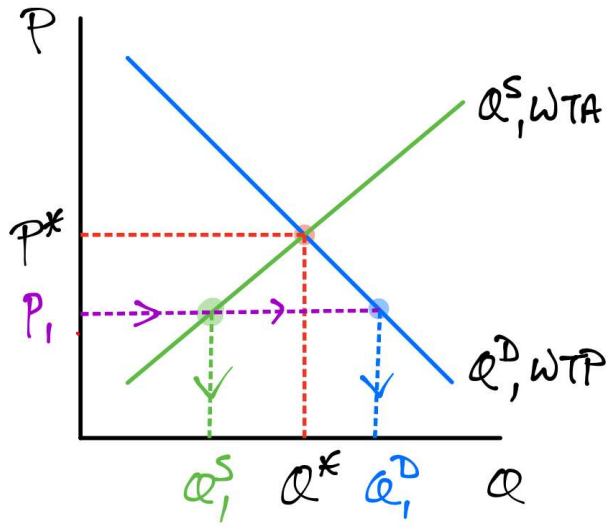
Graphically, the equilibrium is where the curves cross:



Equilibrium:

- P is *stable*: no forces pushing it up or down
- All other prices are **not** stable:

Case 1: P_1 below P^*



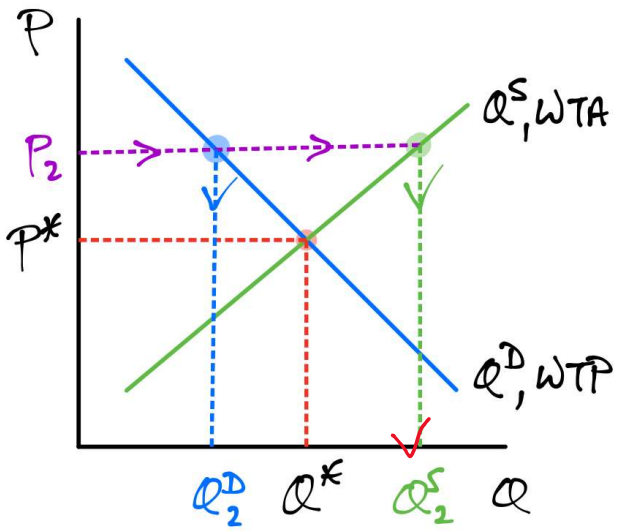
Buyers want more: $Q_M^D(P_1) > Q^*$

Sellers sell less: $Q_M^S(P_1) < Q^*$

$$Q_M^D(P_1) > Q_M^S(P_1)$$

- Excess **demand**
- Price will tend to **rise**

Case 2: P_2 above P^*



Buyers want less: $Q_M^D(P_2) < Q^*$
Sellers sell more: $Q_M^S(P_2) > Q^*$

$$Q_M^D(P_2) < Q_M^S(P_2)$$

- Excess **supply**
- Price will tend to **fall**

Finding P^* and Q^* algebraically:

Can solve either equation:

(I) Use demand = supply and solve for P^* first:

Solve for P^*: $Q_M^D(P^*) = Q_M^S(P^*)$
Solve for Q^*: $Q^* = Q_M^D(P^*)$ or $Q^* = Q_M^S(P^*)$

OR, (II) use WTP = WTA and solve for Q^* first:

Solve for Q^*: $WTP_M(Q^*) = WTA_M(Q^*)$
Solve for P^*: $P^* = WTP(Q^*)$ or $P^* = WTA(Q^*)$