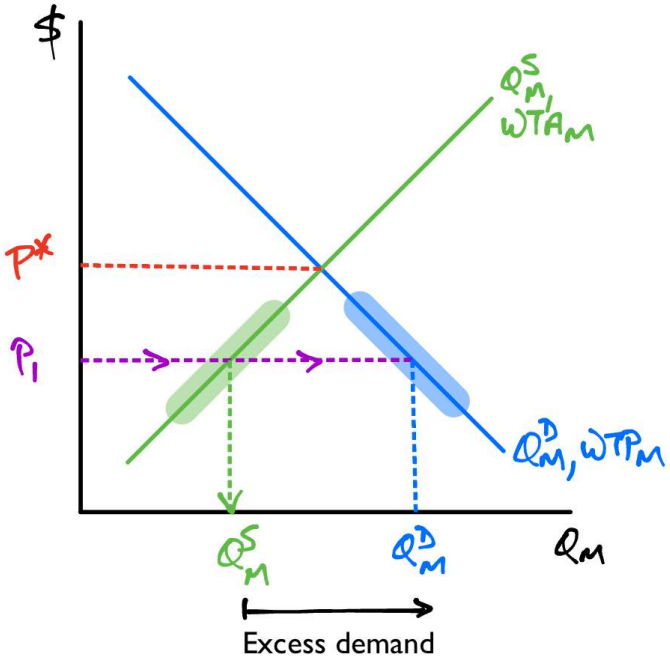
Properties of the Market Equilibrium

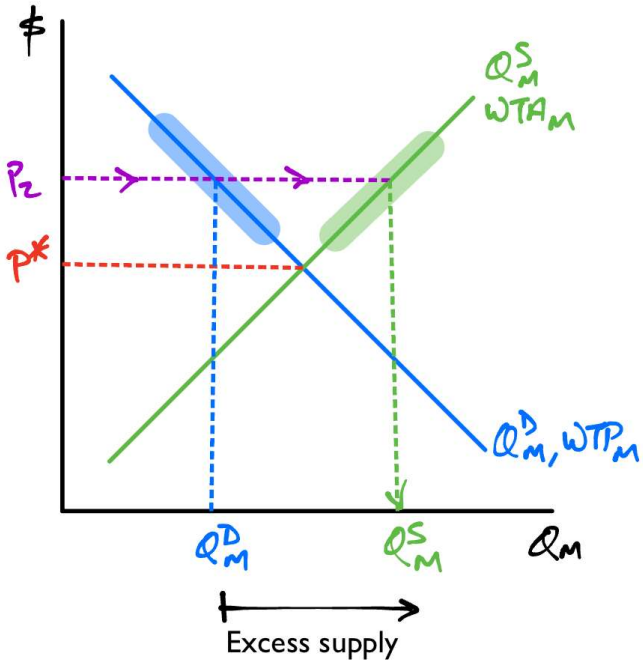
(1) At price P^* where $Q_M^D = Q_M^S$

At all other prices $Q_M^D \neq Q_M^S$

$P_1 < P^*$



$P_2 > P^*$

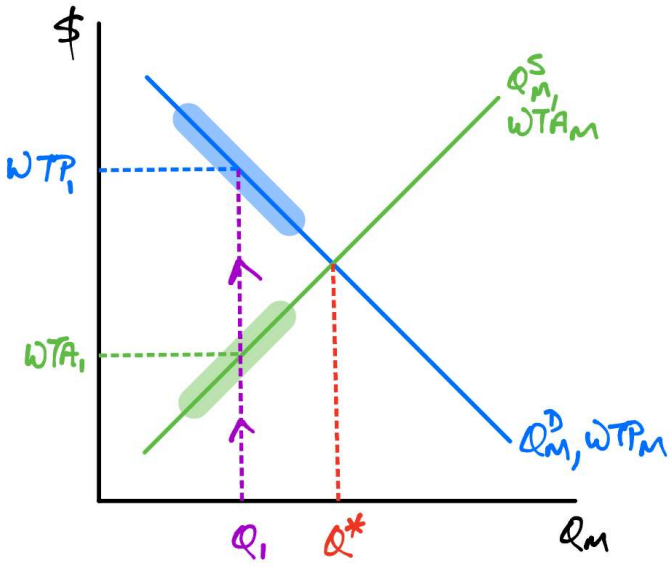


(2) At quantity Q^* where $WTP_M = WTA_M$

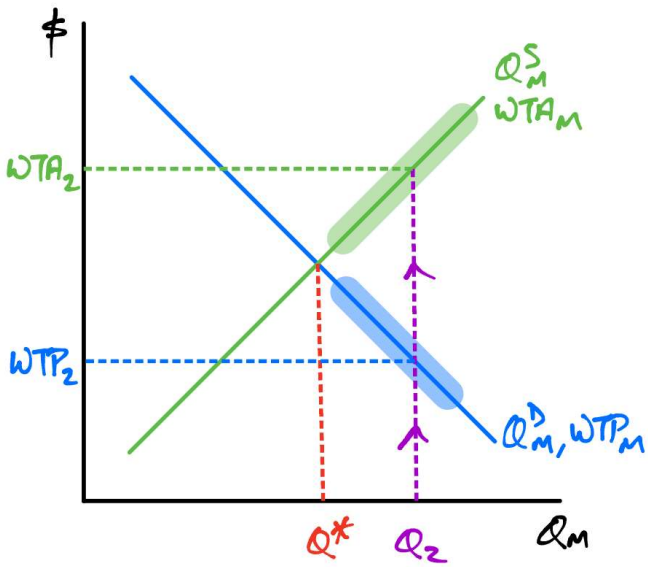
All other Q's have $WTP_M \neq WTA_M$

$Q_1 < Q^*$

$Q_2 > Q^*$



$WTP > WTA$



$WTA > WTP$

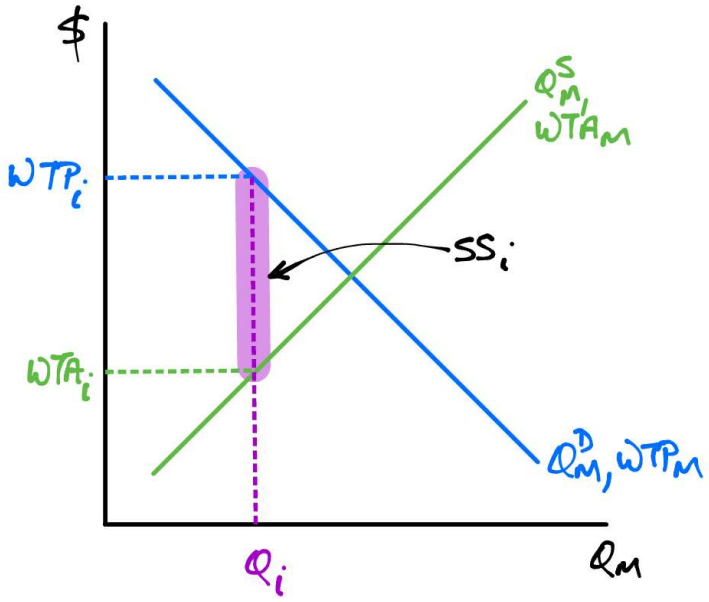
(3) Generates maximum possible gains from trade

Gain on trade of unit Q_i:

$$SS_i = CS_i + PS_i$$

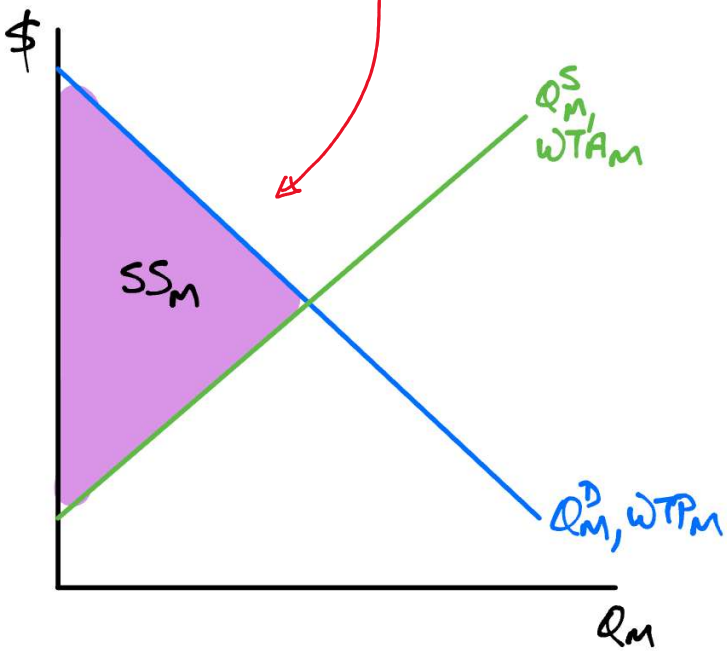
$$SS_i = (WTP_i - P) + (P - WTA_i)$$

$$SS_i = WTP_i - WTA_i$$

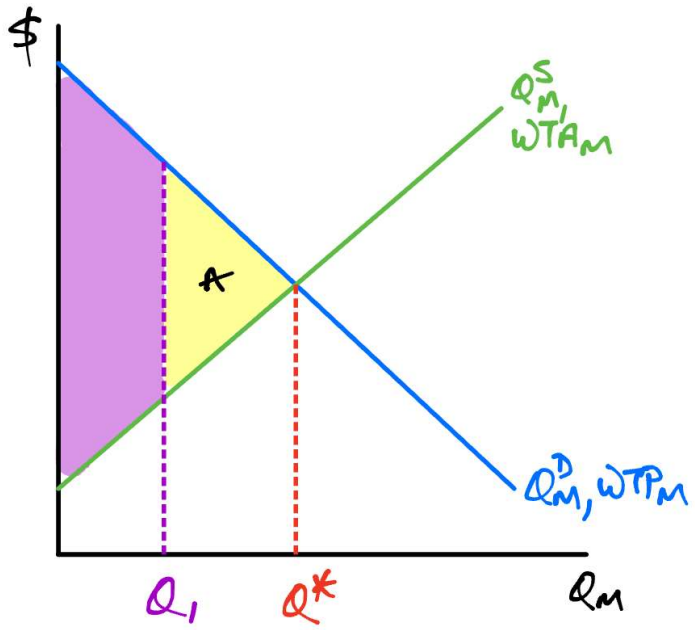


Total gain on Q^* units:

$$SS_M = \sum_{i=1}^{Q^*} SS_i$$



SS_M smaller if stop at $Q_1 < Q^*$

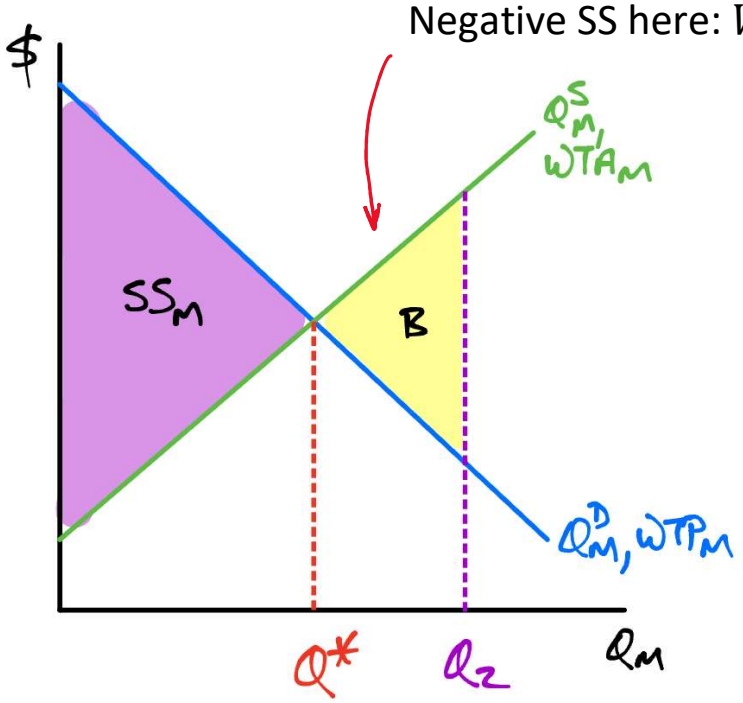


A = gains foregone by stopping at Q_1

Missed SS is called *deadweight loss* (DWL)

SS_M also smaller if $Q_2 > Q^*$

Negative SS here: $WTP < WTA$



B = loss from going beyond Q^*

Also missed SS, so also DWL

Maximum possible gains at Q^*:

- **All** trades occur where $\boldsymbol{WTP > WTA}$
- **No** trades occur where $\boldsymbol{WTP < WTA}$
- **No DWL**

(4) Is Pareto efficient

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