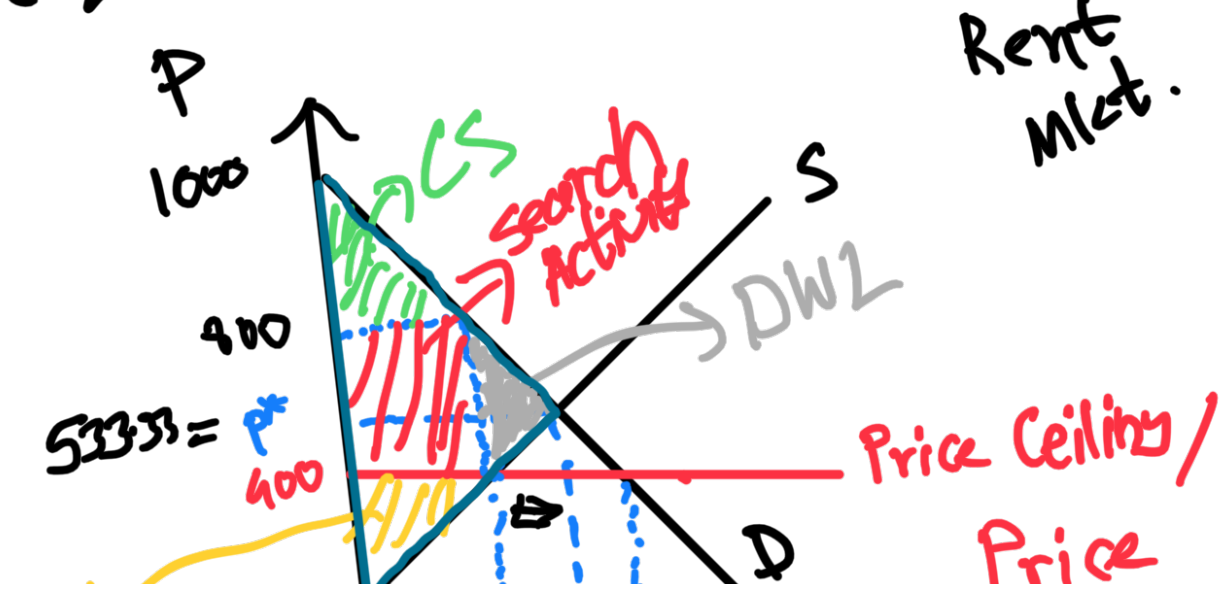
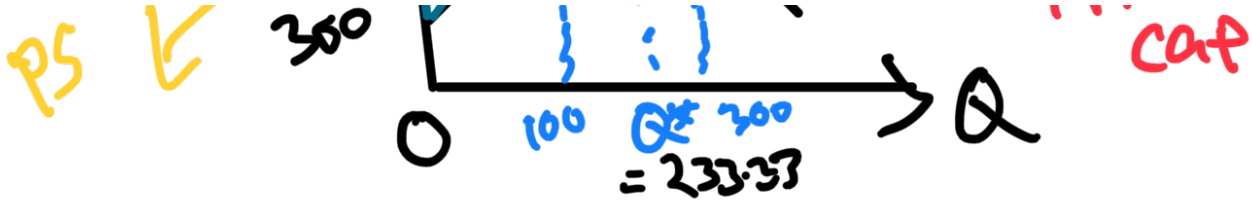
Chapter 6

Price Ceiling vs. Price Floor

Set below eqm

Set above eqm





$P_d = 1000 - 2Q_d$

$P_s = 300 + Q_s$

$P_d(100) = 1000 - 200 = 900$

When $P = 400$, Q_D: $400 = 1000 - 2Q_d$

$Q_d = 300$

$Q_d - Q_s$

$= 300 - 100$

$= 200$ → excess demand

Q_s: $400 = 300 + Q_s$

$Q_s = 100$

CS = $\frac{1}{2} \times (1000 - 800) \times 100$ → TS

PS = $\frac{1}{2} \times (400 - 300) \times 100$

Secret Activity = $[800 - 400] \times 100$

DWL = $\frac{1}{2} \times [800 - 400] \times [233.33 - 100]$

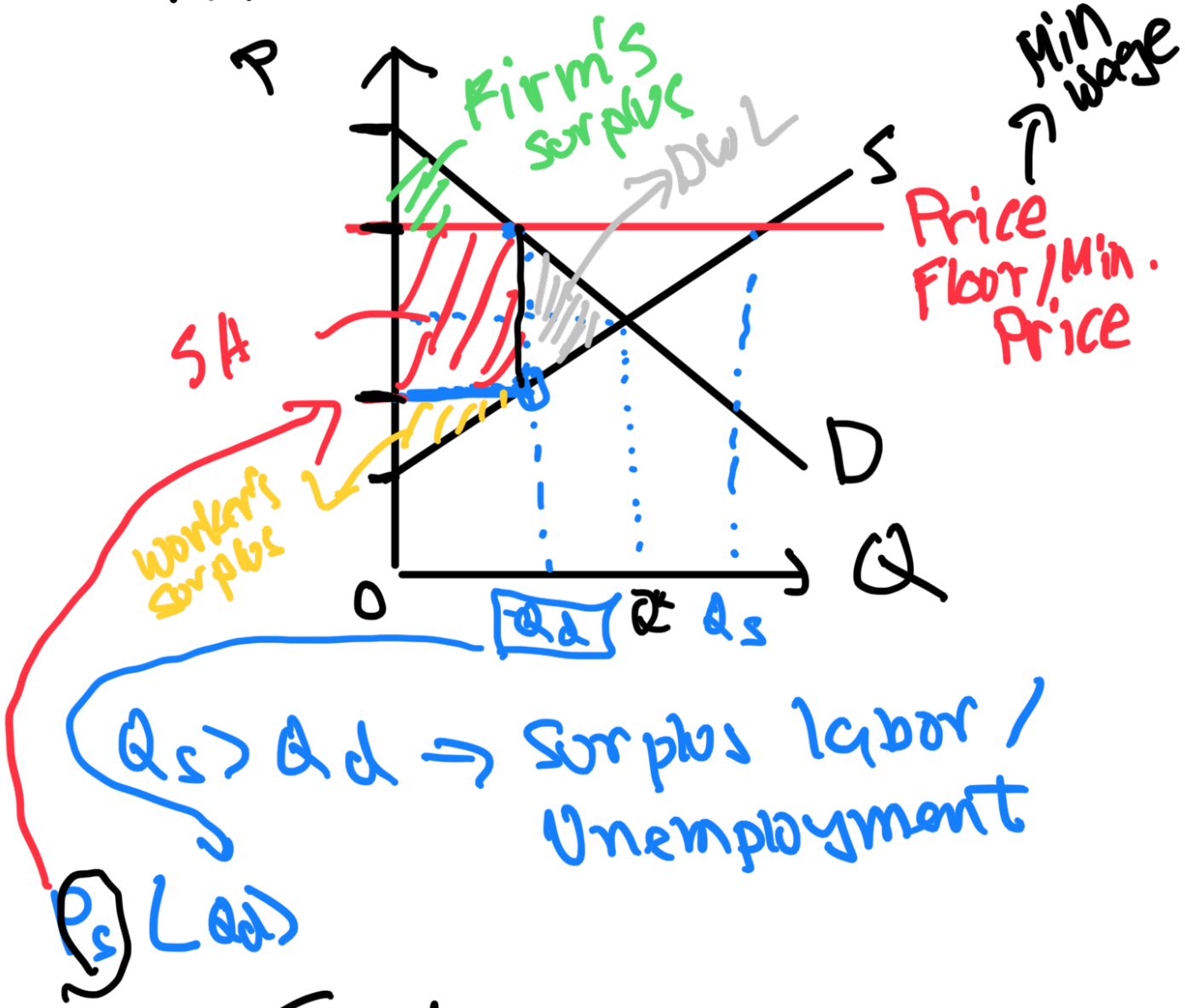
TS = CS + PS

TS at ... = CS + PS + S.A + DWL

free Mkt. Eqm.

Price Floor

Labor Mkt



$Q_s > Q_d \Rightarrow$ Surplus labor / Unemployment

$P_s \downarrow Q_d \downarrow$

Tax

$Q_t^* =$

$P^* = 270$

$P_t^* = 273$ ↑

$P_d = 600 - 3Q_d$

$P_s = 50 + 2Q_s$

$600 - 3Q^* = 50 + 2Q^*$

$550 = 5Q^*$

$Q^* = 110, P^* = 270$

Ks, PS, TS

Lump-sum tax of $5 introduced. Taxed on the sellers → supply side.

Supplier passes on the tax to the buyers as an increase in cost.

Cost of Production ↑

Supply curve shifts to the left ← S' / S

At each Quantity, P ↑ by $5.

$$\boxed{P^{New} = P^{old} + tax}$$

$$P^{New} = 50 + 2Q_s + 5$$

$$\therefore P_{New} = 55 + 2Q_s$$

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New Inverse-Supply Function

New Eqm:

$$P_d = 600 - 3Q_d$$

$$P_s' = 55 + 2Q_s$$

$$600 - 3Q^* = 55 + 2Q^*$$

$$600 - 55 = 5Q^*$$

$$Q^* = \frac{545}{5} = 109$$

Dxt

$P^* = 275$

Before tax,

Price paid by buyers = 270

" received " sellers = 270

After tax,

Price paid by buyers = 273 ↑$5

" received by sellers = 268

Tax Revenue

$= t \times Q^*_t$

$= \$5 \times 109 = \$545$

$CS' = \frac{1}{2} \cdot (600 - 273) \cdot 109$

$PS' = \frac{1}{2} \cdot (268 - 50) \cdot 109$

$DWL = \frac{1}{2} \times (273 - 268) \times (110 - 109)$

Loss in TS = DWL