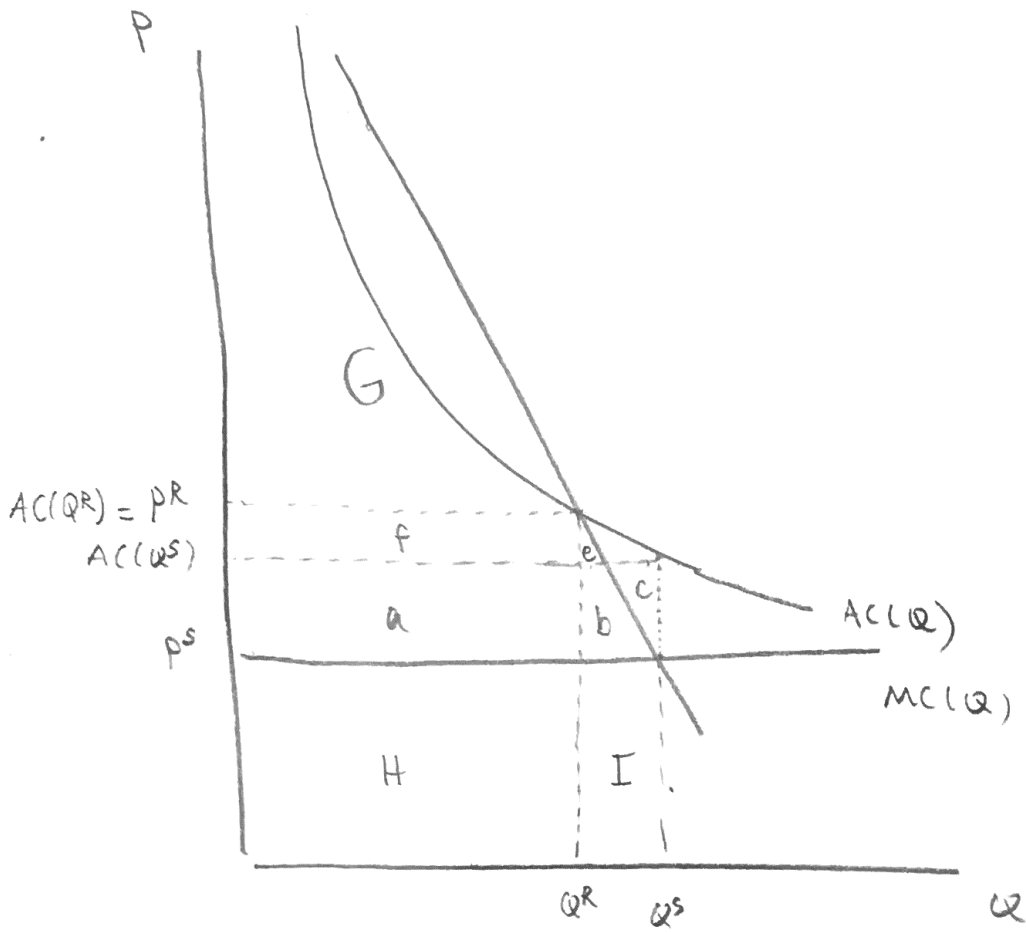


Explaining the DWL with Ramsey-Boiteux pricing

- 1 -
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Under R-B pricing (or SB pricing)

$$CS^R = G$$

$$PS^R = TR^R - TC^R$$

$$TR^R = f + a + H$$

$$TC^R = F + TVC^R; \quad F = \text{fixed cost (does not change w/ quantity)}$$

$TVC^R = \text{Total variable cost}$

$$TVC^R = H$$

$$F = f + a$$

$$\begin{aligned} \text{Thus; } PS^R &= f + a + H - (F + TVC^R) \\ &= f + a + H - f - a - H = 0 \end{aligned}$$

$$\begin{aligned} \rightarrow TS^R &= CS^R + PS^R \\ &= G \end{aligned}$$

Under MC pricing (or FB pricing)

$$CS^S = G + f + e + a + b$$

$$PS^S = TR^S - TC^S \text{ where}$$

$$TR^S = H + I$$

$$TC^S = F + TVC^S$$

where $F = a + b + c$. This is the same as before [$F = f + a$].

$$TVC^S = H + I \quad \text{Fixed cost does not change w/ quantity}$$

$$\text{Thus } TC^S = a + b + c + H + I$$

$$\begin{aligned} PS^S &= PS^S = H + I - (a + b + c + H + I) \\ &= -(a + b + c) \end{aligned}$$

$$\begin{aligned} TS^S &= G + f + e + a + b + [-(a + b + c)] \\ &= G + f + e - c \end{aligned}$$

$$TS^S - TS^R = f + e - c$$

$$\text{We know that } \cancel{e} + b + c = f + \cancel{c}$$

$$b = f - c$$

$$\text{Thus, } TS^S - TS^R = e + b$$