

Unit 4

ERP (eff ratio price) is

$$Q^R = Q_1 + \frac{t+h}{b+f+h}$$

$$\frac{V_T - V_W}{V_W} \quad V_W - \text{world price}$$

V_T - after tariff

P_A - price of auto

P_C - price of parts

$$D_2 = D_1 - \frac{t+h}{b+f+h}$$

Eff ratio price

$$ERP = \frac{V_T - V_W}{V_W} t_A + P_C \left(\frac{t_A - t_C}{P_A - P_C} \right)$$

$$\text{Gain} = (D_2^* - Q_2^*) \times (P_F - P_W)$$

$$\text{Loss} = \frac{1}{2} (Q_2 - Q_1) (\tilde{P} - P_F) +$$

$$\frac{1}{2} (D_1 - D_2) (\tilde{P} - P_F)$$

Optimum tariff is positive.

Home be imposing country, let $\tilde{P}$ be the internal price

$$D = a - b\tilde{P}$$

$$Q = e + f\tilde{P}$$

$$\Rightarrow MD = D - Q = (a - e) - (b + f)\tilde{P}$$

$$NX = Q^* - D^* = g + hP_W$$

Gain - loss after all calculations

$$= tU - t^2V$$

$$= t(U) - t^2(V)$$

where U and V are complex math expression independent of tariff and are positive.

$$tU > t^2V \Rightarrow \text{Net} > 0$$

P_W is the world price, on tariff this will raise the home internal price by t

$$\tilde{P} = P_W + t$$

Airbus Vs Boeing

OE = Airbus

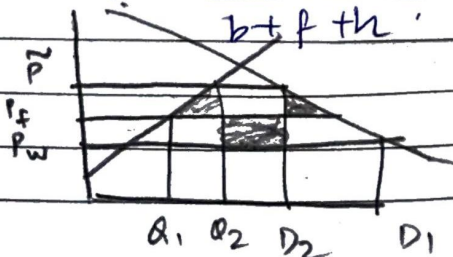
on world eq $MD = XS$

$$\Rightarrow (a - e) - (b + f)\tilde{P} = g + hP_W$$

let P_F be world price of no tariff

$$\tilde{P} = P_F + \frac{t+h}{b+f+h}$$

$$P_W = P_F - \frac{t(b+f)}{b+f+h}$$



$$\text{Boeing } P \begin{pmatrix} -5, -5 \end{pmatrix} \begin{pmatrix} 100, 0 \end{pmatrix}$$

$$NP \begin{pmatrix} 0, 100 \end{pmatrix} \begin{pmatrix} 0, 0 \end{pmatrix}$$

Nash eq (P, NP) and (NP, P)

let (P, NP) be the eq.

effect of subsidy Airbus NP

$$\text{Boeing } P \begin{pmatrix} -5, 20 \end{pmatrix} \begin{pmatrix} 100, 0 \end{pmatrix}$$

$$NP \begin{pmatrix} 0, 125 \end{pmatrix} \begin{pmatrix} 0, 0 \end{pmatrix}$$

Nash eq = (P, NP)

Welfare

↑ in PS = +125

↓ in Govt Rx = -25

Net = +100

moments

Lost advantage for Boeing

Airbus NP

P	(5, -5)	(125, 0)
Boeing NP	(0, 100)	(0, 0)

(P, NP) is the nash

Cost adv for Boeing with subsidy

by Airbus

Airbus

P NP

P	(5, 20)	(125, 0)
Boeing NP	(0, 125)	(0, 0)

Nash eq - (P, P)

↑ in Producer pyr = +20

↓ in Govt rx = -25

Net = -5