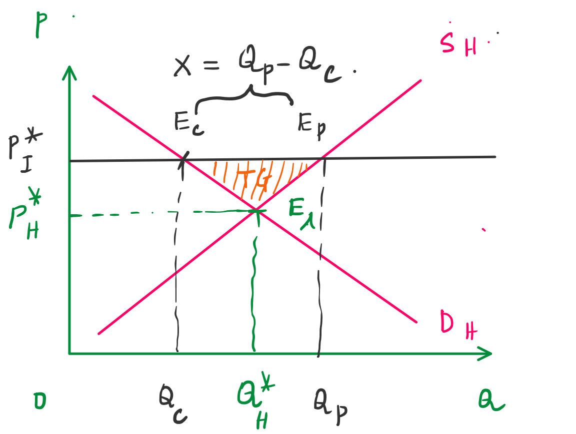
Partial Equilibrium Framework



i) Production: $S_H = S_H(P_H)$, $S_H' > 0$

ii) Pref: $D_H = D_H(P_H)$, $D_H' < 0$.

iii) Autarky price was determined by:

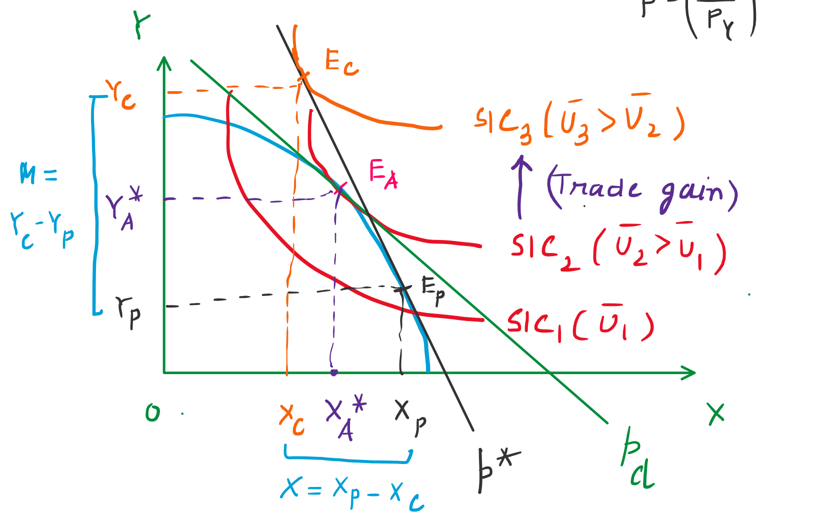
$S_H = D_H \Rightarrow$ solves for P_H^* .

(*) [Under Autarky the Production & Consumption pts are the same] ✓

iv) If the Home country

General Equilibrium Framework

$p = \left(\frac{P_X}{P_Y}\right)$



i) Production: PPF.

MRPT = Abs slope of PPF = $\frac{C'(X)}{C'(Y)} = \frac{MC_X}{MC_Y}$

[Assume diminishing returns $\Rightarrow$ PPF is concave]

ii) Pref: Social Indifference Curve (SIC) $\Rightarrow$ Higher the SIC more is the level of welfare for the economy.

iii) Autarky Relative price $p = \left(\frac{P_X}{P_Y}\right)$

MRPT = MRS $\Rightarrow$ solves for p_d .

X_A^* = Production & consumption pt of Good X under autarky price p_d .

[Similar logic for Y_A^*]

iv) Suppose the home country now faces a

iv) If the Home country faces int price $P_I^* > P_H^*$, then, vol. of export at int price $P_I^* = (Q_p - Q_c)$

v) When the home country participates in this trade trade gain = area($\Delta E_A E_p E_c$)

iv) Suppose the home country now faces a higher relative price of X in the international mkt $p^* > p_d$.

Given: p^* : H → Export X, → Import Y ⇒ Pattern of trade

v) Welfare for the Home economy is given by movement from SIC_2 to SIC_3 ⇒ Higher level of welfare for Home.

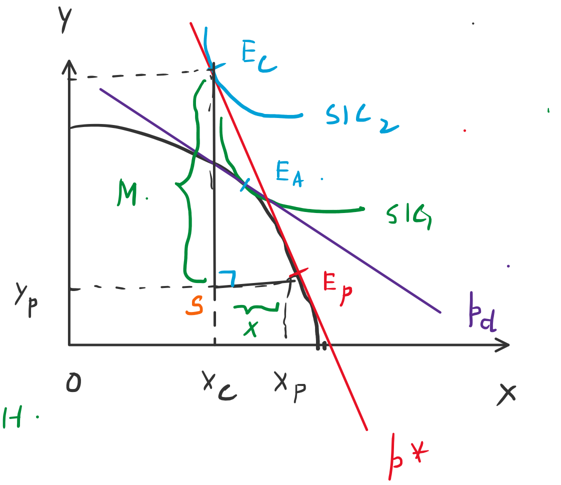
Trade under General Equillibrium:-

Consider 2 countries H & F trading in 2 goods X & Y. Denote:

X = Export of H, M = Import of H.

X^* = Export of F, M^* = Import of F.

∴ Consider a situation where $p^* > p_d$ for H.



Given p^*, From $\Delta E_c S E_p$ ⇒ $\boxed{\dfrac{M}{X} = p^*}$

H: Export → X, Import → Y

$$\Rightarrow \frac{M}{X} = \frac{P_X^*}{P_Y^*} \Rightarrow \boxed{P_X^* X = P_Y^* . M} \text{ --- } (*)$$

Value of Exports = Value of Imports.

(Revenue from Trade) (Exp on Trade)

[∴ In Neoclassical Framework, trade is always balanced]---(*)

Now, $M = Y_c - Y_p$.

$X = X_p - X_c$

$$\Rightarrow \frac{Y_c - Y_p}{X_p - X_c} = \frac{P_X^*}{P_Y^*}$$

$$\Rightarrow P_Y^* . Y_c - P_Y^* . Y_p = P_X^* . X_p - P_Y^* . X_c$$

$\Rightarrow P_Y^* \cdot Y_c - P_Y^* \cdot Y_p = P_X^* \cdot X_p - P_Y^* \cdot X_c$ ... trade is always balanced] --- (*)

$$\Rightarrow \boxed{P_X^* \cdot X_p + P_Y^* \cdot Y_p = P_X^* \cdot X_c + P_Y^* \cdot Y_c} \text{ --- } (*)$$

Value of Prodn for H at post-trade prices = Value of consumption for H at post-trade prices.

$$\frac{P_X^* \cdot X_p}{P_Y^*} + \frac{P_Y^* \cdot Y_p}{P_Y^*} = \frac{P_X^* \cdot X_c}{P_Y^*} + \frac{P_Y^* \cdot Y_c}{P_Y^*} \Rightarrow \boxed{p^* \cdot X_p + Y_p = p^* \cdot X_c + Y_c}$$

Note! Given 2-countries participating in trade: H & F:

H → Exports X. Imports Y.

F → Exports Y. Imports X

and $X = M^*$ and $M = X^*$

Import Elasticity of Demand:

Home: ϵ = absolute import elasticity of demand for Home.

$$= \frac{\% \Delta \text{ imports}}{\% \Delta\, p \text{ (relative price)}} = \frac{\% \Delta Y}{\% \Delta \left(\frac{P_X}{P_Y}\right)}$$

[If $P_Y \downarrow \Rightarrow Y \uparrow \Rightarrow \left(\frac{P_X}{P_Y}\right) \uparrow$]

$$\therefore \epsilon = \frac{dM/M}{dp/p} = \frac{dM}{dp} \cdot \frac{p}{M}$$

Foreign: ϵ^* = absolute import elasticity of demand for Foreign

$$= -\frac{\% \Delta \text{ imports}_F}{\% \Delta\, p \text{ (Relative price)}} = -\frac{\% \Delta X}{\% \Delta \left(\frac{P_X}{P_Y}\right)}$$

[If $P_X \uparrow \Rightarrow \left(\frac{P_X}{P_Y}\right) \uparrow$ But $X \downarrow$].

$\epsilon^* = -\frac{dM^*/M^*}{\ldots} = \ldots \frac{dM^*}{\ldots} \cdot \frac{p}{\ldots}$

$$\epsilon^* = -\frac{dM^*/M^*}{dp/p} = -\frac{dM^*}{dp} \cdot \frac{p}{M^*}$$

Trade stability in General Equillibrium Framework:

[Recap: For stability in Partial Equi Framework: $\frac{dED}{dP} < 0$].

Consider good X:

HW.

For stability we should have: $\frac{dED_X}{dp} < 0$, [where $p = \frac{P_X}{P_Y}$]

$ED_X = M^* - X$. [& Given: $\frac{M}{X} = p$. $\Rightarrow X = \frac{M}{p}$]

$ED_X = M^* - \frac{M}{p}$.