Brander-Krugman Model of Intera Industry Trade

Dr. Neha Paliwal
Assistant Professor
Department of Economics
UCSSH, MLSU

Assumptions:

- There are two countries, which are identical in all respects.
- The commodity is homogeneous
- There is one producer in each of the two countries.
- Each producer has equal costs of production.
- Total cost function is linear in the two countries.
- The domestic demand function is identical in the two countries.
- Both the firms display Cournot behaviour i.e., each firm assumes that the supply of the rival firm will remain constant

Model

- Linear Cost Function

  $C=a+bQ$ here $Q= Q_1^1+ Q_1^2$

- Demand Function in country i given as:

  $P^i=c-d(Q_1^i+Q_2^i)$

  i=1 for Domestic Country, i=2 for Foreign Country

- Revenue to the domestic producer by selling in home country:

  $R_1^1=[\ c-d(Q_1^1+Q_2^1)\ ]^*\ Q_1^1$

- Revenue to the domestic producer by selling in foreigncountry:

$R_1^2=[\ c-d(Q_1^2+Q_2^2)\ ]^*\ Q_1^2$

Model cont……

- Total Revenue of domestic producer

$R_1=R_1^1+ R_1^2$

$=[c-d(Q_1^1+Q_2^1)]* Q_1^1+[c-d(Q_1^2+Q_2^2)]* Q_1^2$

- Total production cost

$C_1=a+b(Q_1^1+ Q_1^2)$

- Profit Function

$M_1= (R_1^1+ R_1^2)- C_1$

Or $M_1=[c-d(Q_1^1+Q_2^1)]* Q_1^1+[c-d(Q_1^2+Q_2^2)]* Q_1^2-[a+b(Q_1^1+ Q_1^2)]$

Model cont……

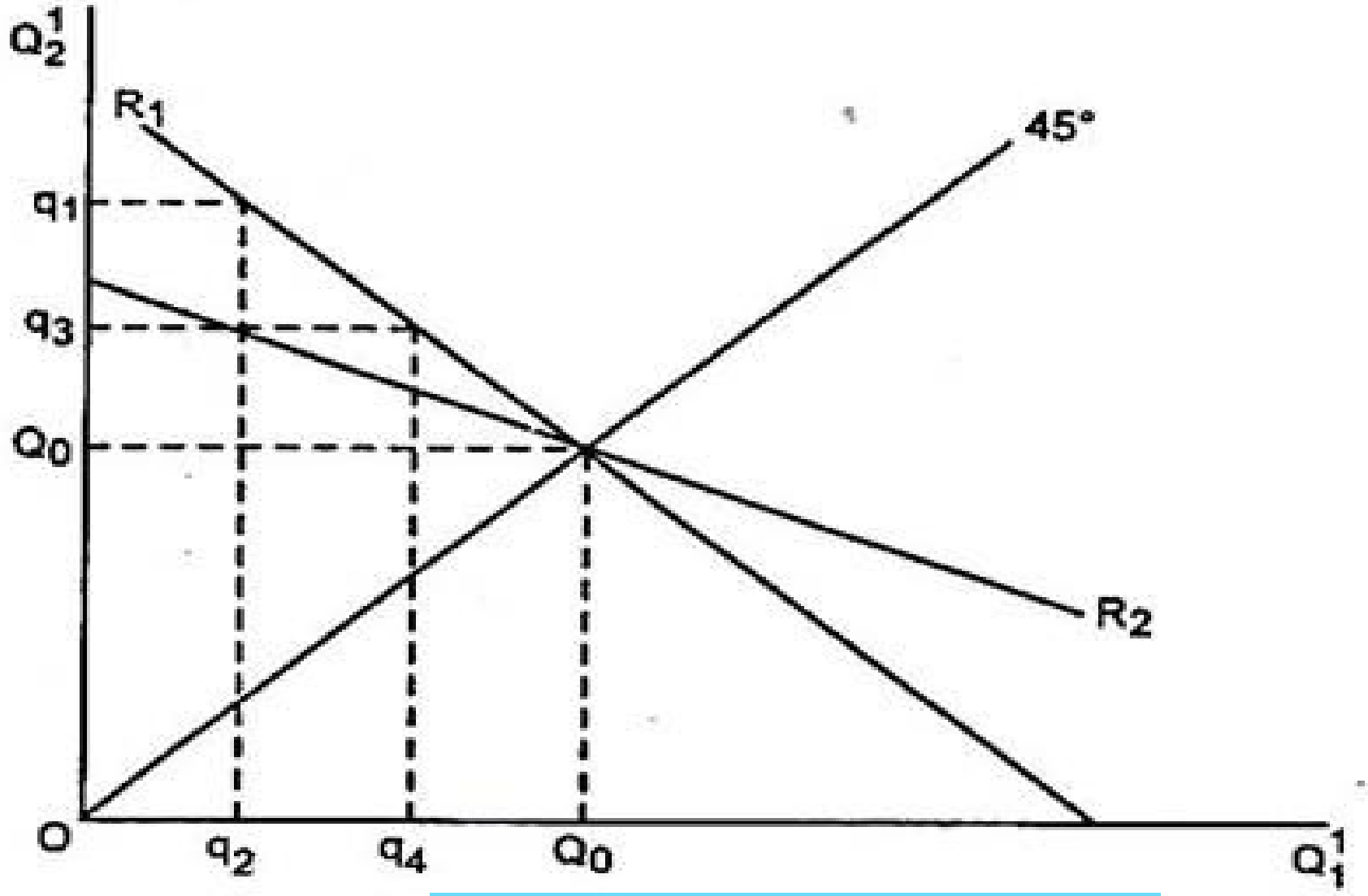
- Profit Maximisation First Order Condition For Domestic Producer

  $\partial M_1/\partial Q_1^1 = c - 2d\,Q_1^1 - d\,Q_2^1 - b = 0$ ……..(i)

  $\partial M_1/\partial Q_1^2 = c - 2d\,Q_1^2 - d\,Q_2^2 - b = 0$……..(ii)
- Profit Maximisation First Order Condition For Foreign Producer

  $\partial M_2/\partial Q_2^1 = c - 2d\,Q_2^1 - d\,Q_1^1 - b = 0$…….(iii)

  $\partial M_2/\partial Q_2^2 = c - 2d\,Q_2^2 - d\,Q_1^2 - b = 0$……..(iv)
- Equilibrium for domestic market can be achieved by solving equations (i) and (iii)
- Equilibrium for domestic market can be achieved by solving equations (ii) and (iv)



Equilibrium in Domestic Market

Thanks!