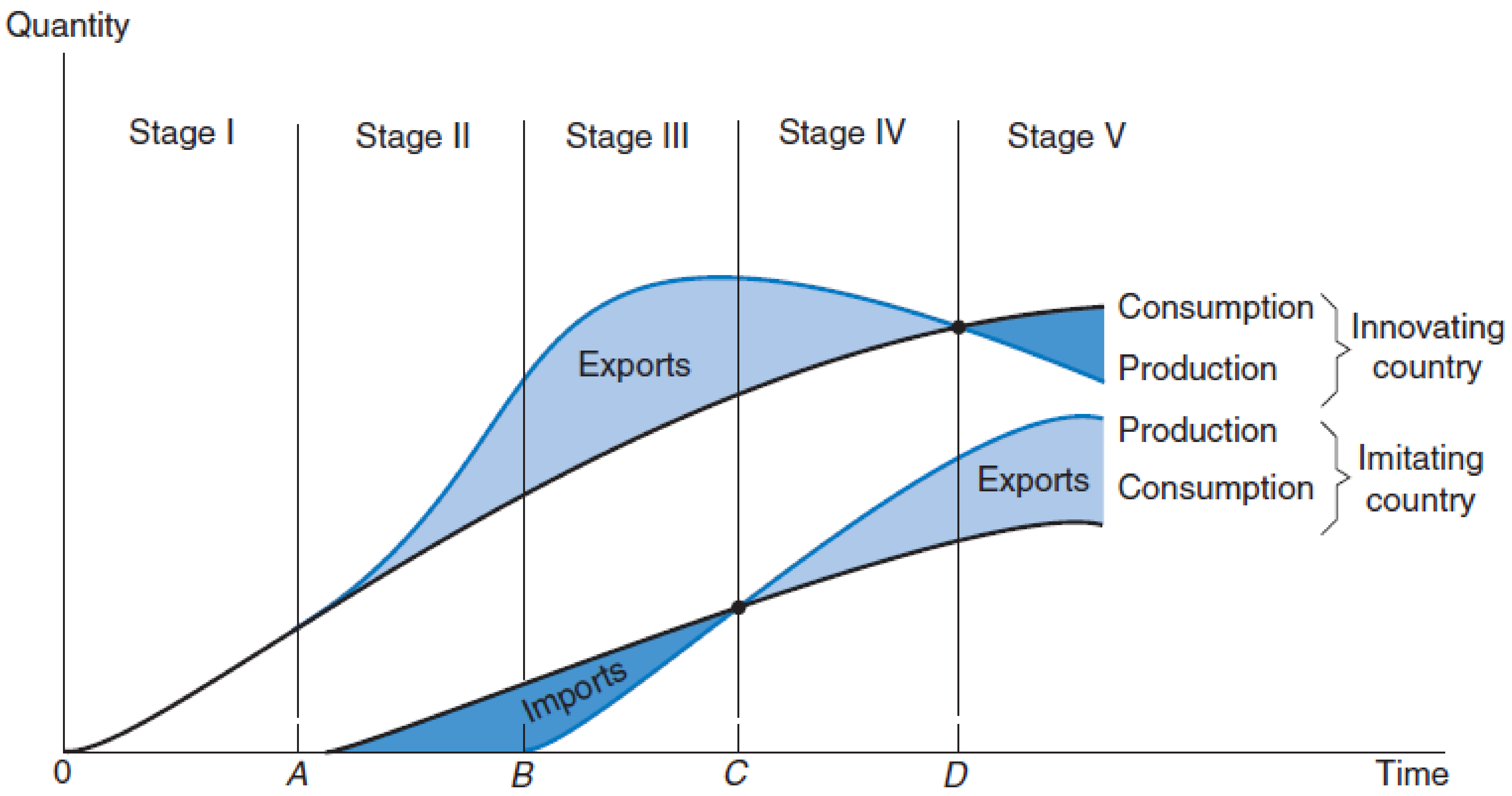
International Trade

L12

Relaxing assumptions of HO Theorem-Technology

Trade Based on Dynamic Technological Differences

- Technological Gap Models
- Product Cycle Model

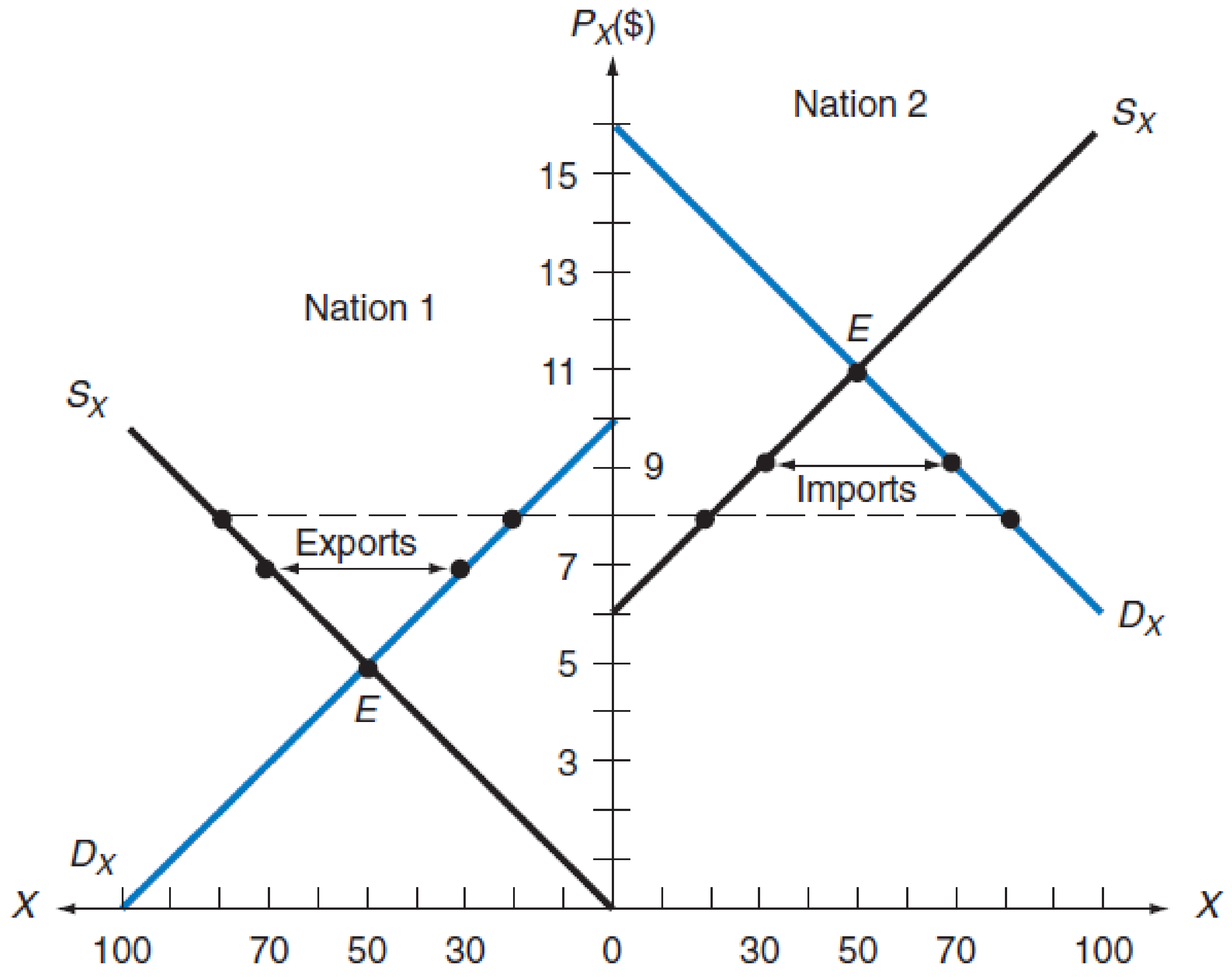

Quantity
Stage I
Stage II
Stage III
Stage IV
Stage V
Exports
Consumption
Production
Innovating country
Production
Exports
Consumption
Imitating country
Imports
0
A
B
C
D
Time

Product Cycle Model

- Product Cycle Models identifies five different stages in the life cycle of a product from the point of view of the innovating and the imitating country.
- In stage I, or new-product phase (referring to time *OA* on the horizontal axis), the product (at this time a specialty) is produced and consumed only in the innovating country.
- In stage II, or product-growth phase (time *AB*),production is perfected in the innovating country and increases rapidly to accommodate rising demand at home and abroad. At this stage, there is not yet any foreign production of the product, so that the **innovating country has a monopoly in both the home and export markets.**
- In stage III, or product-maturity phase (time *BC*), the product becomes standardized, and the innovating firm may find it profitable to license other domestic and foreign firms to also manufacture the product. Thus, the imitating country starts producing the product for domestic consumption

- In stage IV (time *CD*), the imitating country, facing lower labor and other costs now that the product has become standardized and no longer requires development and engineering skills, begins to undersell the innovating country in third markets, and production of the product in the innovating country declines. **Brand competition now gives way to price competition.**
- Finally, in stage V (i.e., past point *D*), the imitating country starts underselling the innovating country in the latter's market as well, and production of the product in the innovating country declines rapidly or collapses. Stages IV and V are often referred to as the **product-decline stage.**
- Technological diffusion, standardization, and lower costs abroad thus bring the end of the life cycle for the product. It is now time for the innovating country to concentrate attention on new technological innovations and to introduce new products.

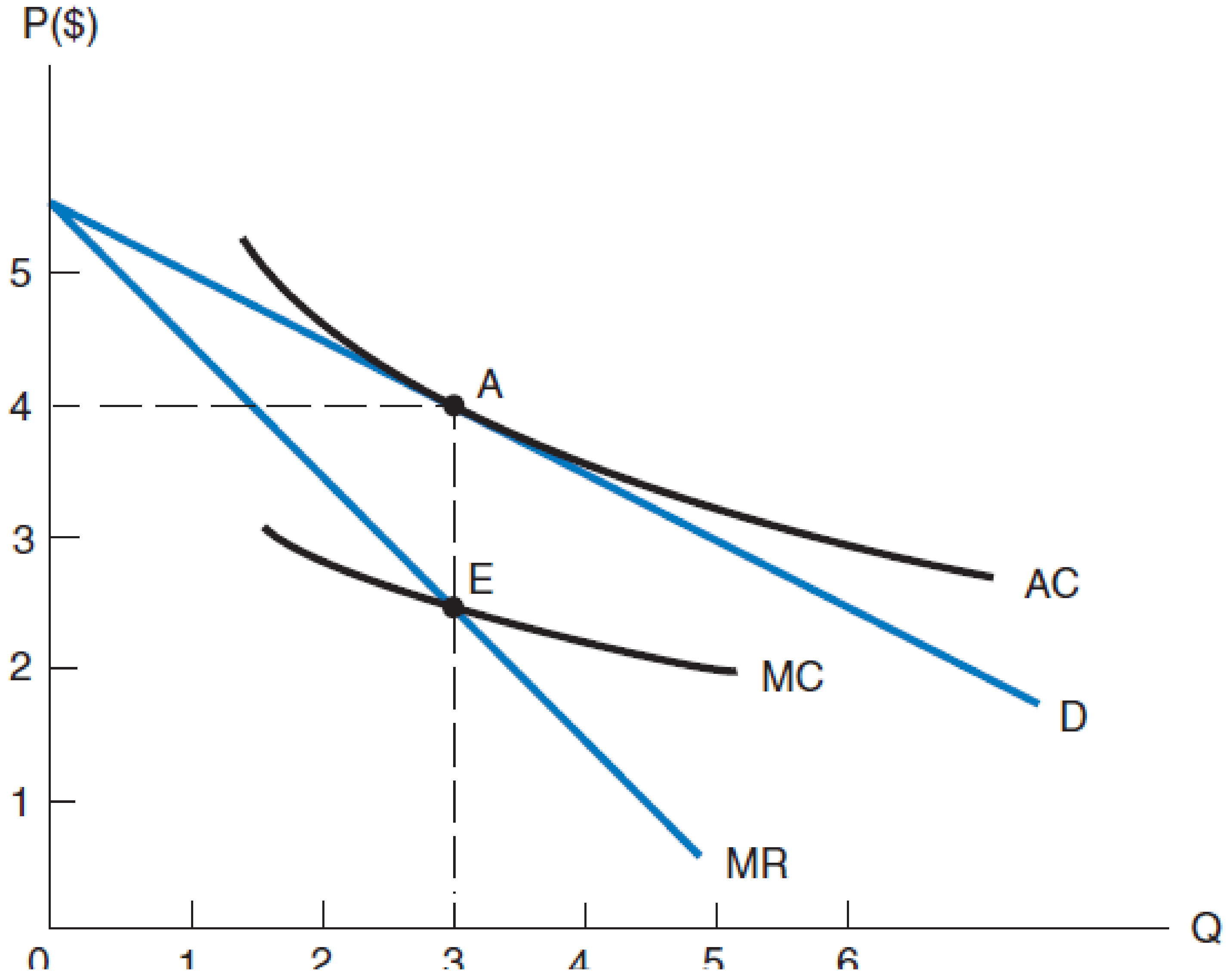
Relaxing assumptions of HO Theorem-Transportation cost



P_X($)
Nation 2
S_X
15
13
E
Nation 1
11
S_X
9
Imports
Exports
7
D_X
5
E
3
D_X
X
100
70
50
30
0
30
50
70
100
X

Relaxing assumptions of HO Theorem-Constant Returns to scale and Perfect Competition

- Increasing returns to scale (IRS)- Economies of scale
- Imperfect competition
- Monopoly/ Oligopoly/Monopolistic market
- Intra-industry trade
- Trade based on product differentiation



P($)
5
4
3
2
1
0
1
2
3
4
5
6
Q
A
E
AC
MC
D
MR