International Trade

The Ricardian Model

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Chapter 3: Comparative Advantage

An Introduction to International Economics: New Perspectives on the World Economy

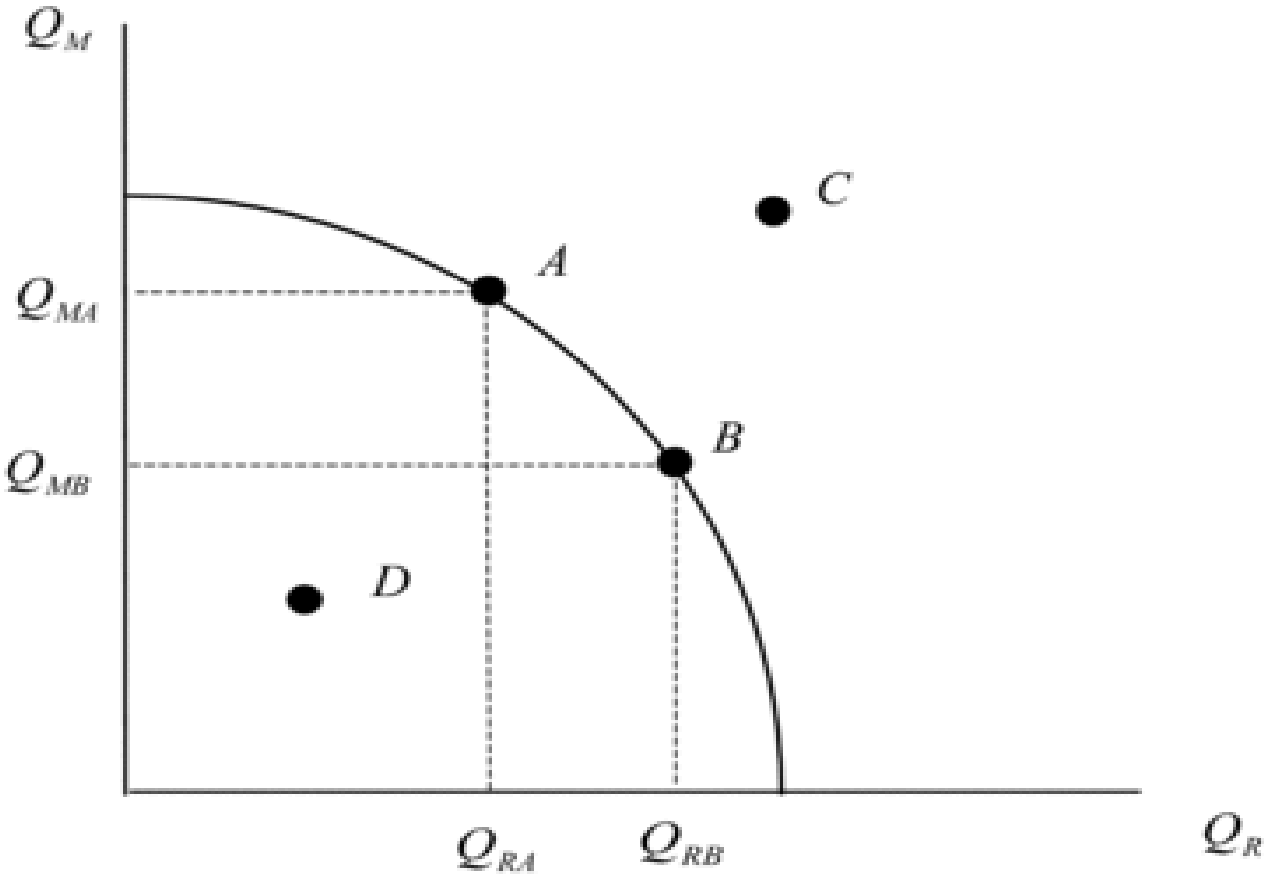
Comparative Advantage: Analytical Elements

- Countries
- Sectors
- Factors of production

Review of PPFs

- PPFs depict the combinations of output of two goods (rice and motorcycles) that the economy (Vietnam or Japan) can produce given its available resources and technology.
- In Figure 3.6 we have the following points
  - A: full employment on the PPF
  - B: full employment on the PPF
  - C: not feasible
  - D: feasible with unemployed resources

Figure 3.6: The PPF



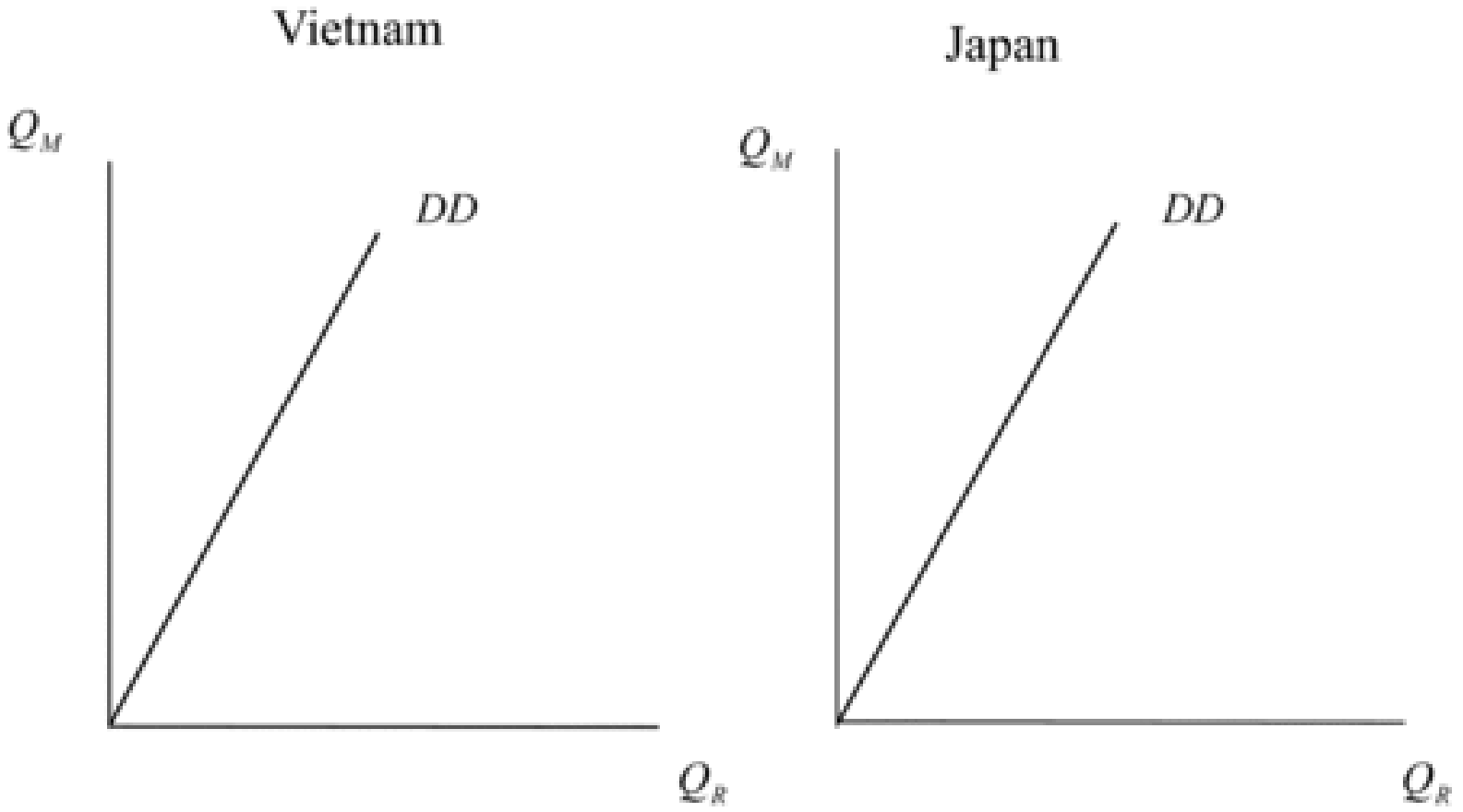
Comparative Advantage

- As incomes increases in Vietnam, consumers began to think about a motorcycle
- In this chapter, we will place motorcycles alongside rice so that you can begin to understand
  - Concept of comparative advantage and its role in generating patterns of trade among the countries of the world
  - Requires the use of a production possibilities frontier (PPF)

Autarky and Comparative Advantage

- Consider again Vietnam and Japan
- Both of these countries produce two goods—rice and motorcycles
- Assume that demand for rice and motorcycles in both Vietnam and Japan is such that these two goods are consumed in the same, fixed proportions
  - This assumption is depicted in Figure 3.1

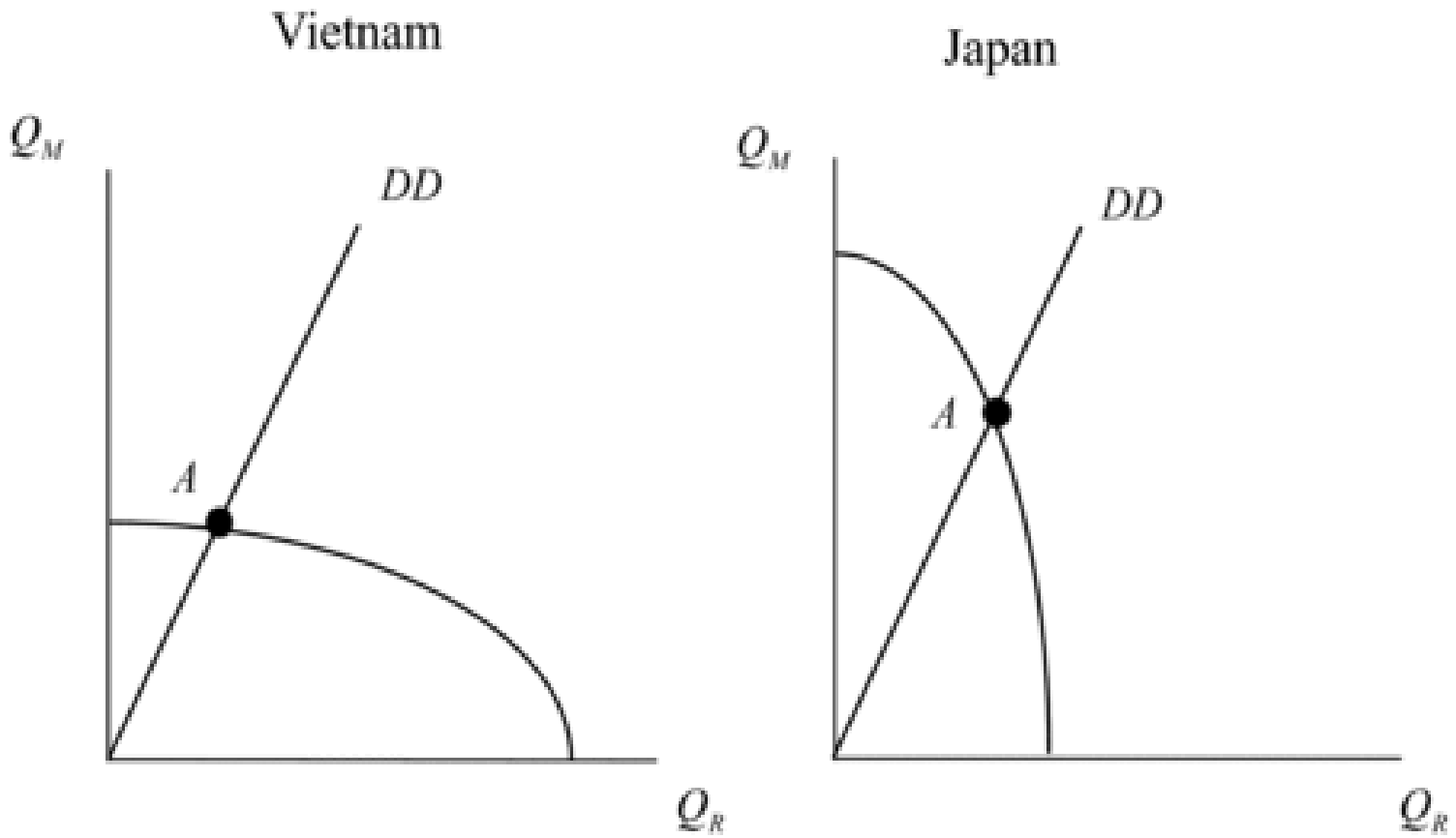
Figure 3.1: Demand Diagonals in Vietnam and Japan



Production Possibilities Frontier

- Assumptions
  - Resource or technology conditions in Vietnam give it a production possibilities frontier (PPF) that is biased towards rice
  - Resource or technology conditions in Japan give it a PPF that is biased towards motorcycles
    - Vietnam might have superior technology in rice production, and Japan might have superior technology in motorcycle production or
    - Vietnam might be better endowed in rice production factors (land and labor), and Japan might be better endowed in motorcycles production factors (physical capital)

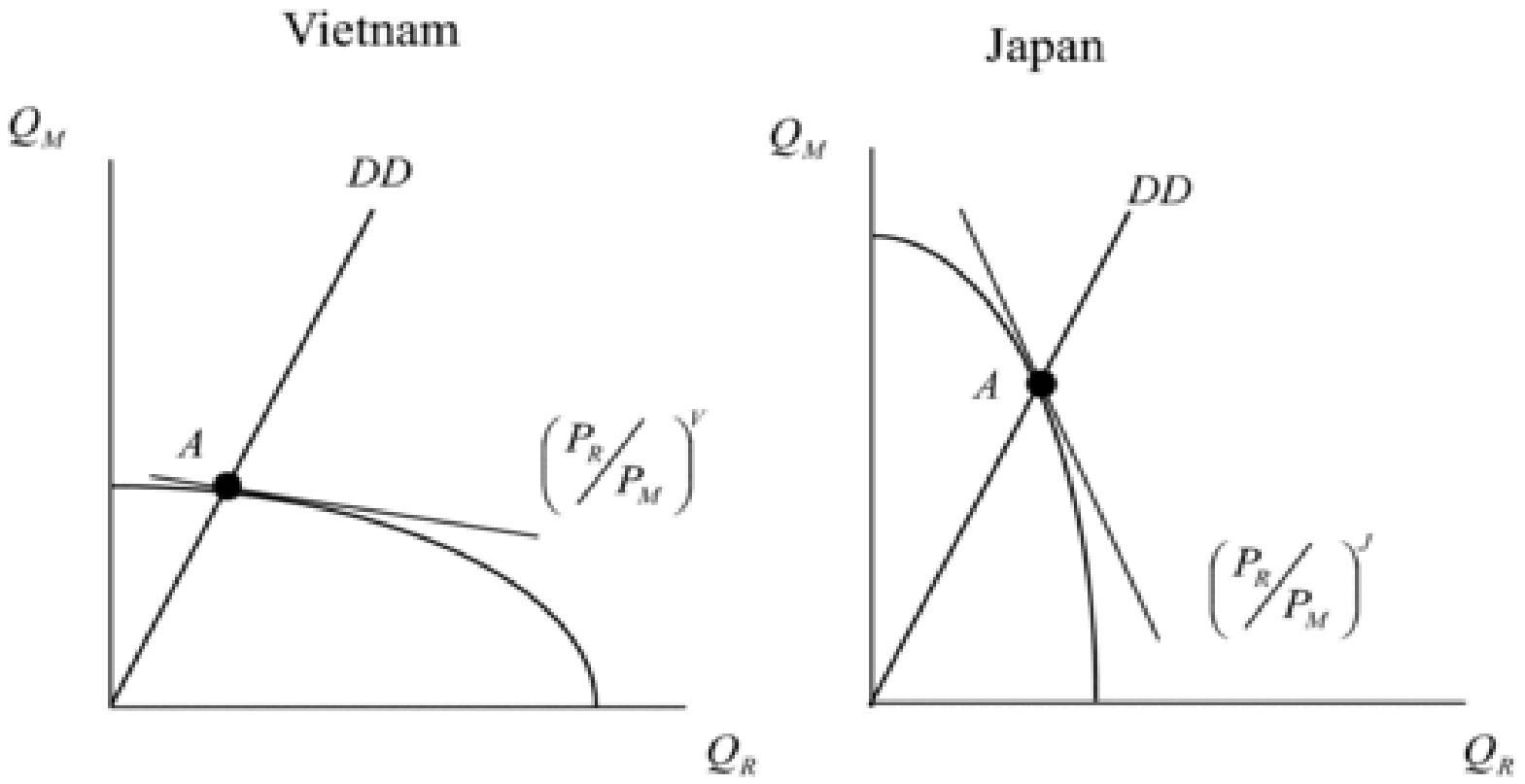
Figure 3.2: Demand and PPFs in Vietnam and Japan



Production Possibilities Frontier

- In a system of freely operating markets and full employment of production factors, opportunity costs are fully reflected in relative prices
  - The slope of a PPF where demand diagonal crosses it is the relative price of rice, or P_R/P_M
  - This is shown in Figure 3.3 by drawing the tangent lines to the PPFs at the point where the demand lines cross them, points A
  - Points A in the two PPFs in Figures 3.3 represent two countries under autarky.

Figure 3.3: Relative Prices in Vietnam and Japan under Autarky



Autarky and Comparative Advantage

- The tangency line giving relative prices is flatter in Vietnam than in Japan
  - The opportunity cost of rice is lower in Vietnam than in Japan
  - In other words, under autarky, $\left(P_R/P_M\right)^V < \left(P_R/P_M\right)^J$
  - Or, the relative price of rice is lower in Vietnam than in Japan
- What we have here is an expression of the pattern of comparative advantage
  - Differences in economy-wide supply conditions cause differences in relative autarky prices and hence a pattern of comparative advantage
- Note that comparative advantage involves four prices rather than two prices as in absolute advantage
  - Consequently, a country can have comparative advantage in a good in which it has an absolute disadvantage

International Trade

- If Vietnam and Japan abandon autarky in favor of trade, the world relative price of rice will lie somewhere between the two autarky price ratios
  - This situation is depicted in Figure 3.4

Figure 3.4: Autarky and Comparative Advantage in Vietnam and Japan

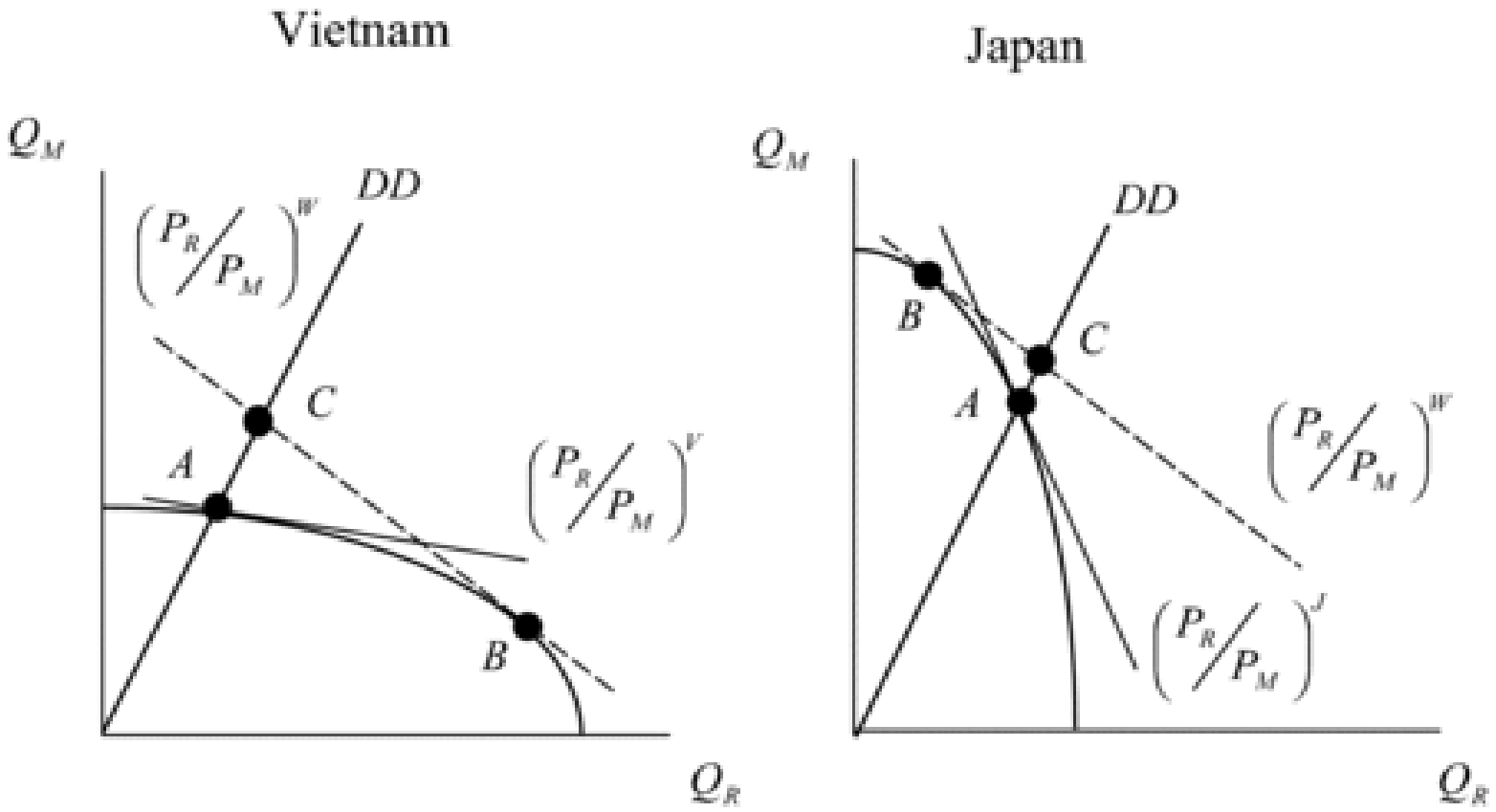


Figure 3.4 Discussion

- These lines are steeper than the autarky price line in Vietnam and flatter than the autarky price line in Japan
- The tangencies of these world price lines with the PPFs determine the new production points in Vietnam and Japan
  - In Vietnam, the movement along the PPF from A to B involves an increase in production of rice, while in Japan, this movement involves an increase in production of motorcycles
- Moving from autarky to trade restructures an economy's production towards the good in which country has a comparative advantage
- Consumption points for Vietnam and Japan must be along our diagonal demand lines—occur where the dashed world price lines intersect demand lines
  - Both consumption and production must respect world prices—both B and C must be on world price lines

Figure 3.5: Trade between Vietnam and Japan

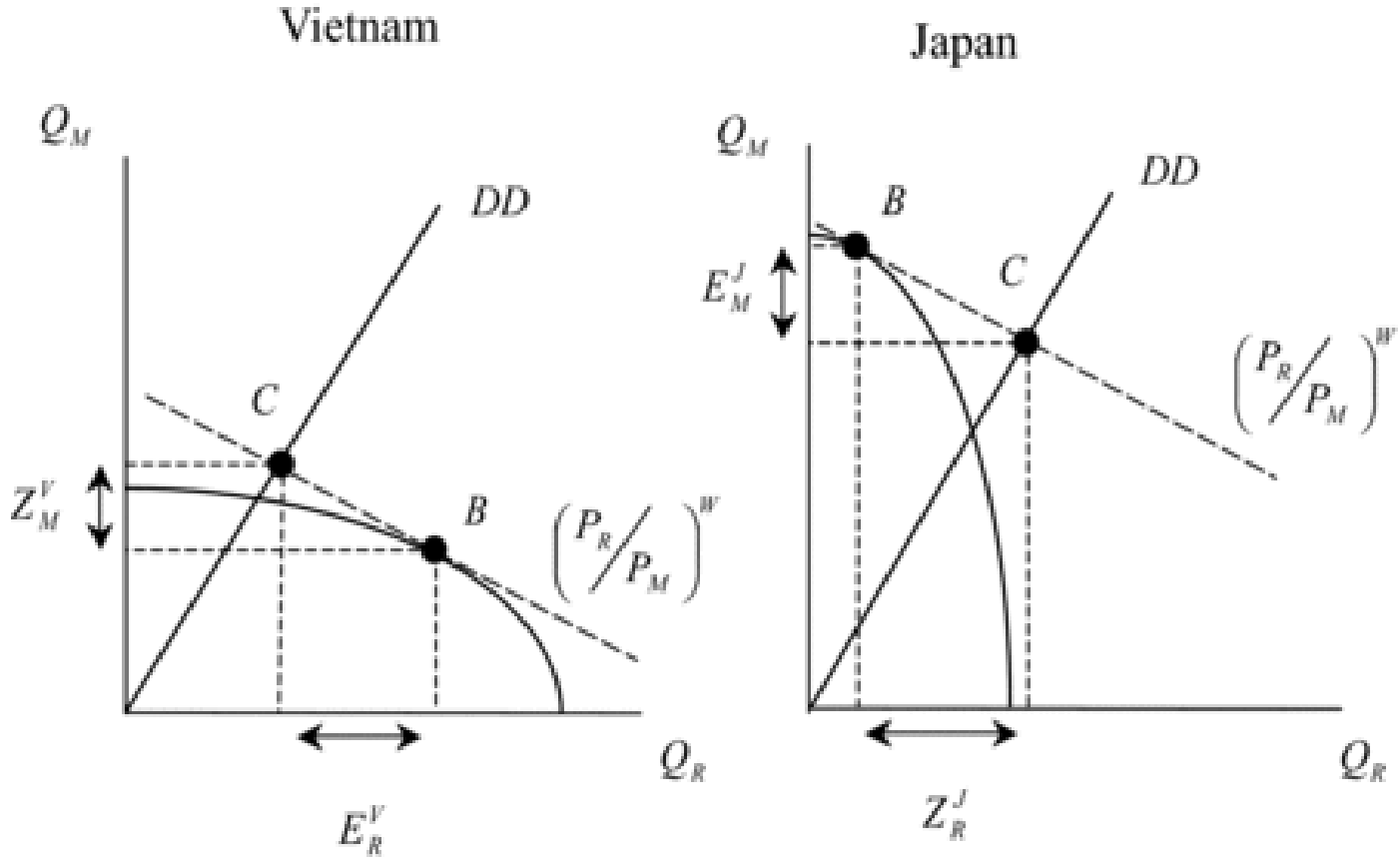


Figure 3.5 Discussion

- In Vietnam, production of rice exceeds consumption of rice, and the difference is exported
- Production of motorcycles, however, falls short of consumption of motorcycles, and this shortfall is imported
- In Japan, production of motorcycles exceeds consumption of motorcycles, and the difference is exported
- Production of rice falls short of production, and this shortfall is imported
- A pattern of comparative advantage gives rise to a complementary pattern of trade

International Trade

- Absolute advantage concept can leave the impression that a country could lack an advantage in anything
  - Therefore have nothing to export
- An absolute disadvantage in a product does not preclude having a comparative advantage in that product
  - Vietnam could have an absolute disadvantage in rice, but still export rice because of its comparative advantage
- Comparative advantage is a more powerful concept than absolute advantage
  - Perhaps the most central concept in international economics

Gains from Trade

- Should a country actually give up autarky in favor of importing and exporting?
- Figure 3.4 shows that the movement from autarky to trade (points A to C) increases consumption of both rice and motorcycles
- Increased consumption of both goods implies that economic welfare has increased
  - Vietnam and Japan have experienced mutual gains from trade based on comparative advantage

Gains from Trade Caveats

- Gains from trade occur for the country as a whole
  - Does not mean that every individual or group within the country benefits
    - Good reasons to expect that there will be groups that lose from increased trade
    - These groups will oppose increased trade despite the overall gains to their country
- Sometimes alleged international trade is almost always detrimental to the environment
- However, the situation is not always this straightforward
  - Theoretical and empirical results demonstrate that increased trade can be either good or bad for the environment
    - Need to approach the trade and environment issue on a case-by-case basis
- Some goods are traded that do not contribute to increased welfare such as land mines, heroin, and prostitution services