



EE451

Chapter 5:

Alternative Theories of Trade - Krugman Model

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Alternative Theories

- The Imitation Lag and Product Cycle (Posner, 1961)
- The Linder Theory
- **Increasing Returns with Monopolistic Competition (Krugman, 1979)**
- External Economies of Scale

- Intra-Industry Trade

Krugman Model (1979)

- Basic features:

- Economies of scale

- Assume labour be the only factor of production
 - Scale economies are incorporated in the equation of labour requirement: $L = a + bQ$

- Monopolistic competition

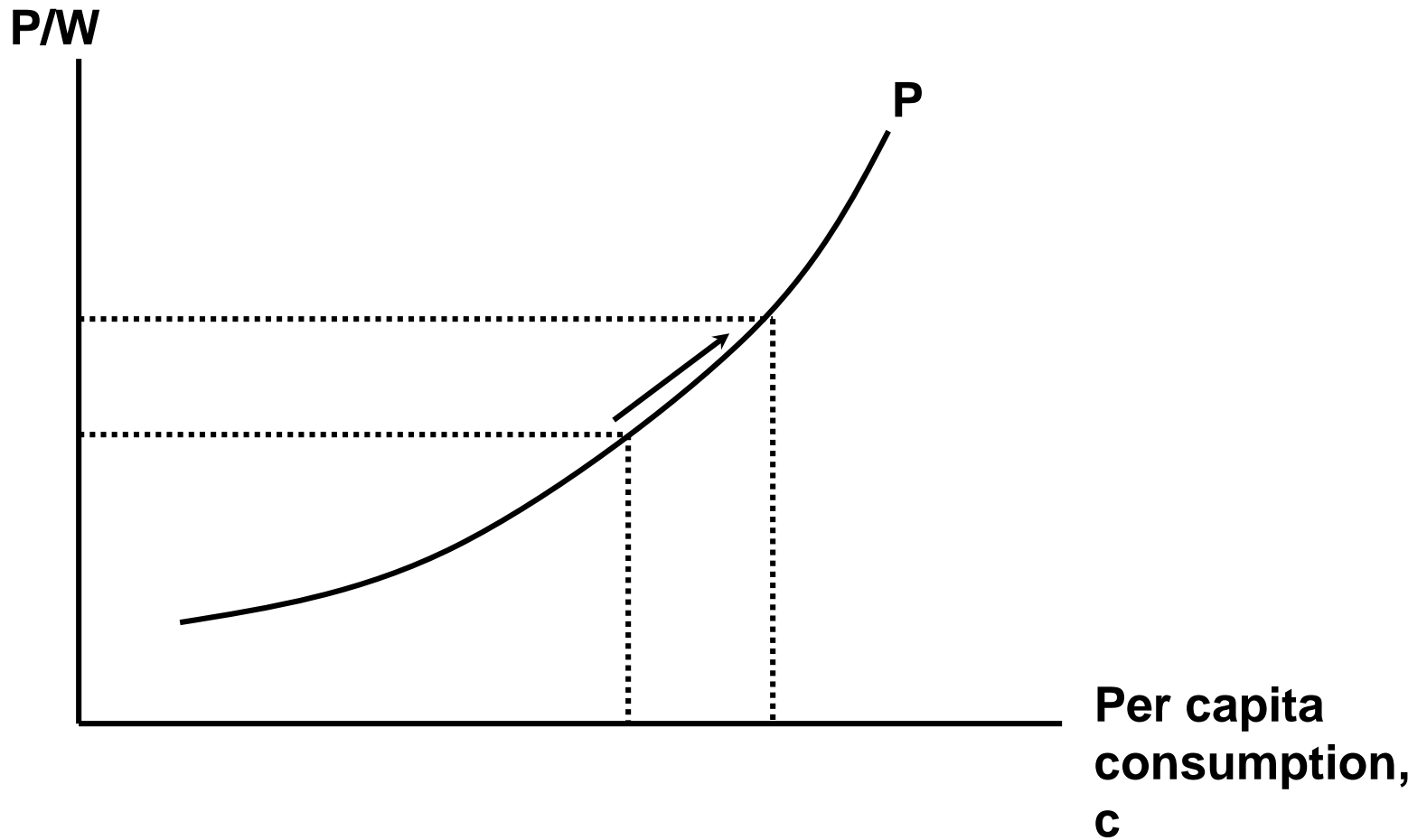
- Recall $P = MR \left[\frac{\varepsilon_d}{\varepsilon_d + 1} \right]$

- Profit-max condition: $MR = MC$, so $P = MC \left[\frac{\varepsilon_d}{\varepsilon_d + 1} \right]$

Krugman Model (1979)

- Moving along a demand downward to the right, Q increases, and ε_d lowers.
- Thus, the expression $[\varepsilon_d / (\varepsilon_d + 1)]$ increases.
- That is, P/W rises as consumption increases

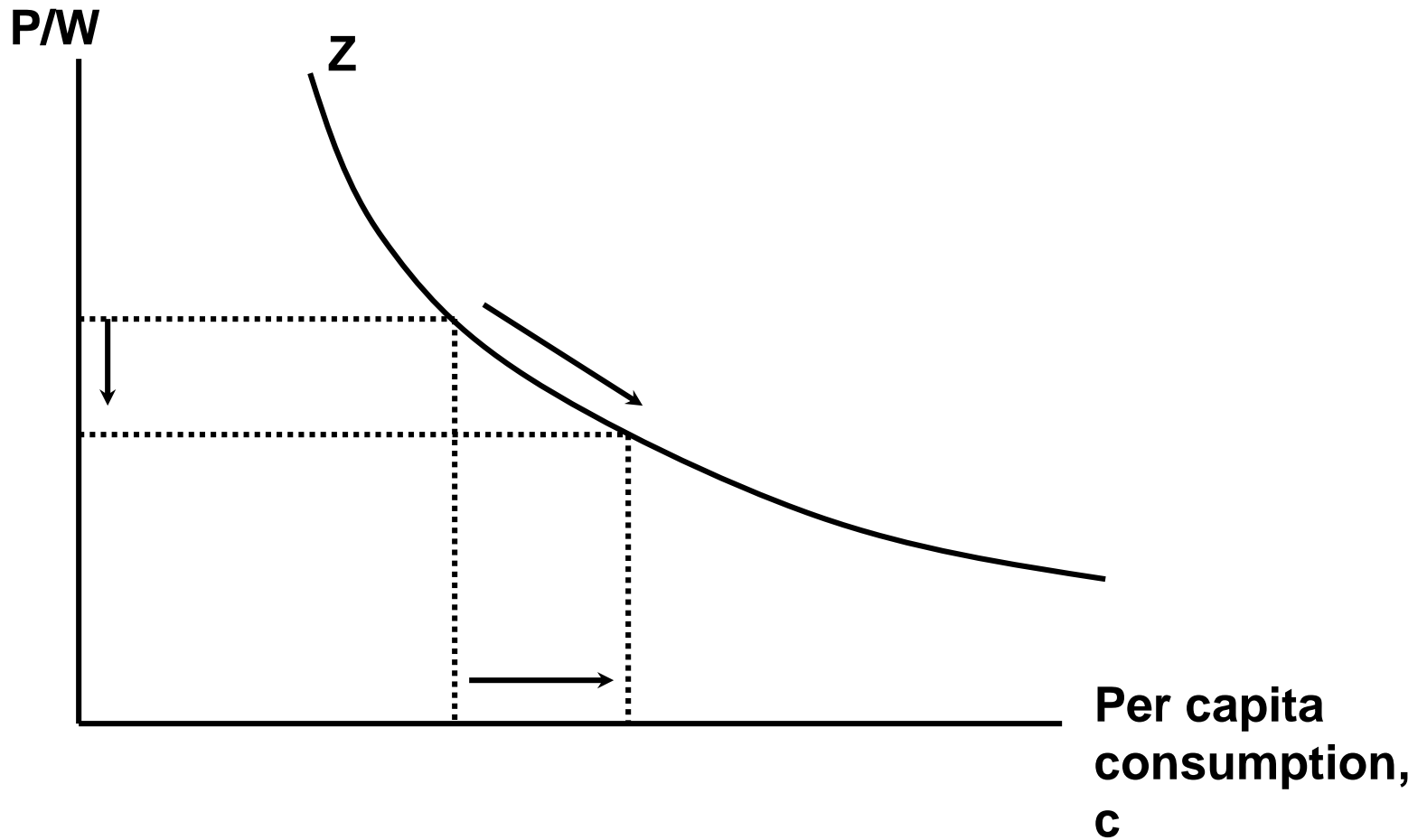
Krugman Model



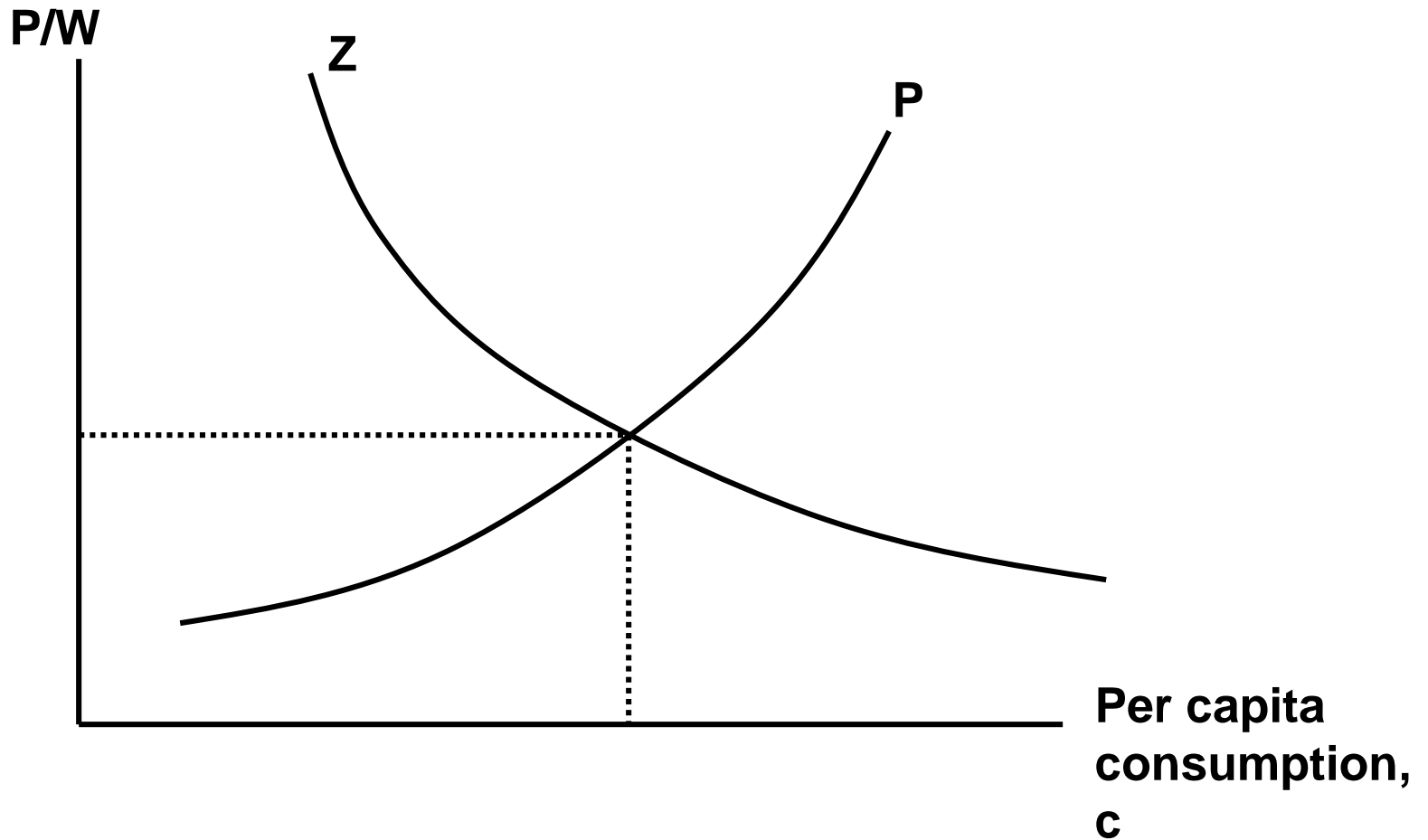
Krugman Model

- Now think about long-run equilibrium: production takes place where $P = ATC$
- As c increases, AC falls (due to internal EOS)
- Hence, to maintain 'normal' profit, P must be reduced.

Krugman Model



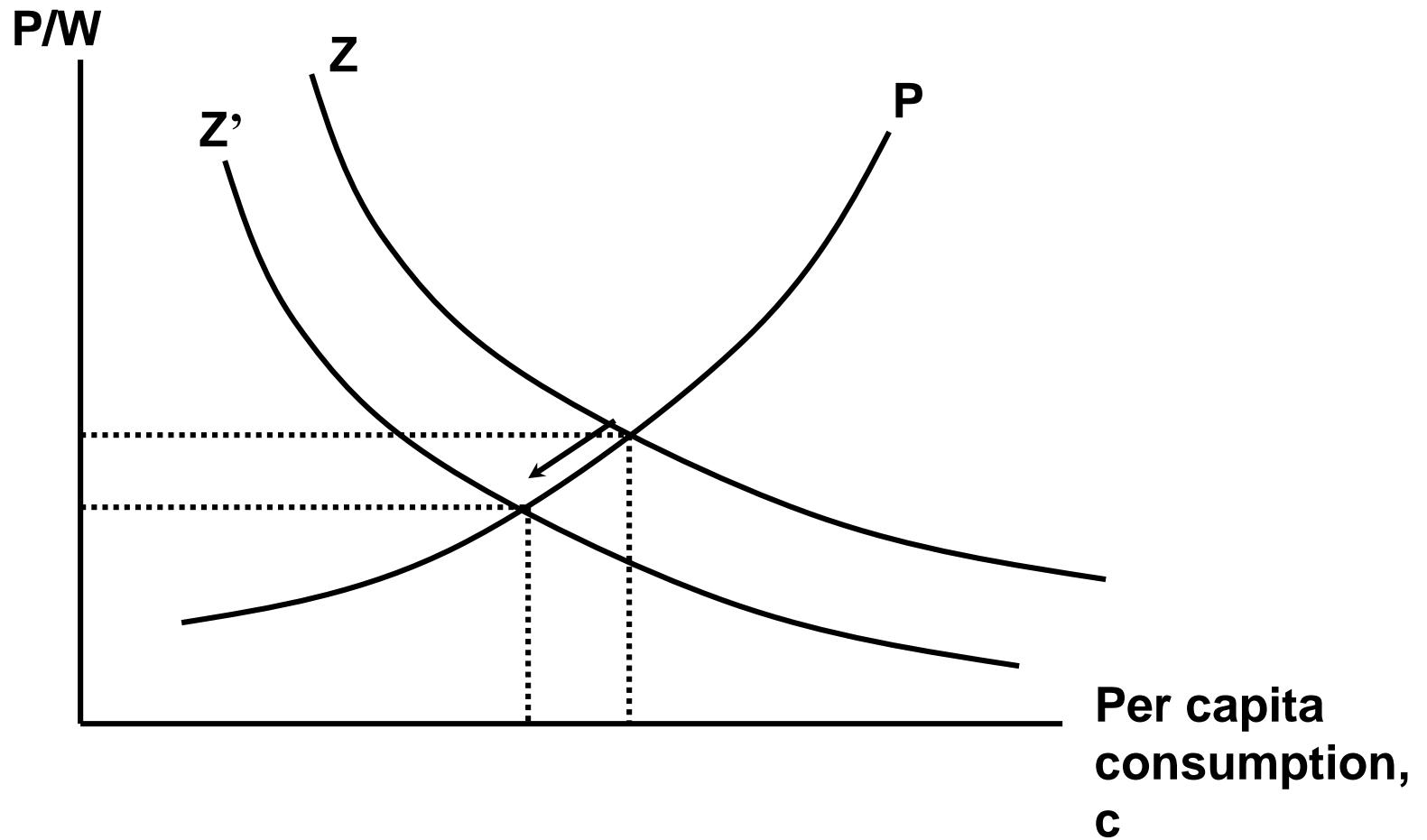
Krugman Model: Equilibrium



When trade is opened

- Market size is enlarged for each representative firm in each industry due to greater number of potential buyers.
- If the firm's total output is held constant, there is less per capita consumption of this firm's product at each P/W than was previously the case. (consumption now spreads to newly available products !)
- Shift Z to the left.

Krugman Model



When trade is opened

- (P/W) falls and c of this firm falls.
- But total consumption of this firm's product increases (due to enhanced market size after trade).
- Then (W/P) increases.
- Trade causes
 - An improvement in real income and a corresponding increase in output of all goods.
 - Consumers now have foreign products available to them as well as home-produced goods. → increased product variety and consumer choice.

When trade is opened

- So this model can explain trade between similar countries, and existence of gains for all consumers.
- Krugman (1983):
 - “factor endowments can determine the broad range of types of goods a country will export and import; but within that broad range, product differentiation and scale economies play a very important role in generating trade and gains from trade”.