IB Economics – Elasticities

1.5: Price Elasticity of Demand

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1.5 PRICE ELASTICITY OF DEMAND: STUDENT LEARNING ACTIVITY

Answer the questions that follow.

1. DEFINITIONS

Define the following terms: **[10 marks]**

- Price elasticity of demand
- Quantity demanded
- Inverse relationship
- Law of demand
- Demand curve
- Absolute value
- Price elastic demand
- Price inelastic demand
- Price unit elastic demand
- Perfectly elastic demand
- Perfectly inelastic demand
- Substitutes
- Necessity
- Expenditure
- Revenue
- Output
- Market
- Pricing strategy
- Profit
- Total revenue (TR)
- Primary commodities
- Manufactured goods
- Luxuries
- Tax revenue
- Indirect tax

2. SHORT-ANSWER QUESTIONS

1. Explain the concept of price elasticity of demand (PED). **[4 marks]**

2. Explain why PED measures the responsiveness of the quantity demanded along a given demand curve. **[4 marks]**

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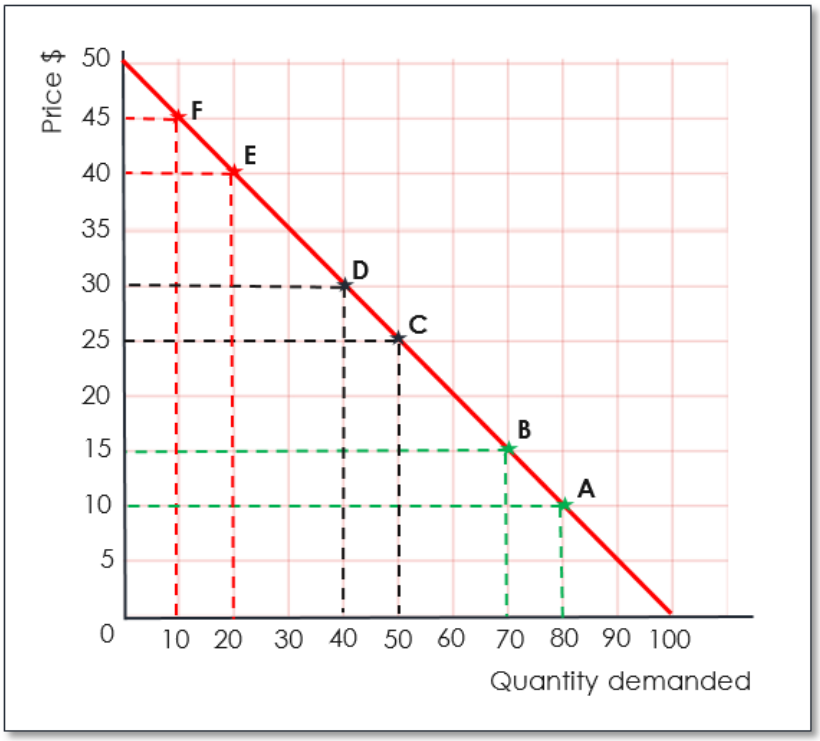
3. Explain why the value of PED is an absolute value when the calculation invariably results in a negative value. **[4 marks]**

4. At $15.00, a pizza restaurant sells 1000 pizzas a week, and at $12.00, 1 900 pizzas are sold. **[4 marks]**
   i. Calculate the PED
   ii. Comment on the value of PED

5. At a pizza restaurant, a 10% increase in the price of pizzas results in a decrease in the quantity demanded of 6%. **[4 marks]**
   i. Calculate the PED
   ii. Comment on the value of PED

6. Identify the value or range of values for each of the following types of price elasticity of demand and sketch an example demand curve. **[10 marks]**
   i. Price elastic demand
   ii. Perfectly price elastic demand
   iii. Price inelastic demand
   iv. Perfectly price inelastic demand
   v. Unit price elastic demand



7. Answer the following questions by using information in the demand curve above. **[10 marks]**
   i. Calculate the PED between points A and B

ii. Calculate the PED between points C and D
iii. Calculate the PED between points E and F
iv. Use information from your calculation to explain why PED changes along the demand curve.

8. Using examples, describe goods and/or services that are likely to be: **[10 marks]**
   i. Price elastic
   ii. Price inelastic

9. Using examples, explain the determinants of price elasticity of demand. **[10 marks]**

10. For each of the following pairings, outline which good is likely to be more price elastic: **[10 marks]**
    i. Chocolate **or** Hershey's chocolate
    ii. Cigarettes **or** candy
    iii. Fruit juice **or** water
    iv. MacBook **or** PC desktop computer
    v. Petrol: one week **or** one year
    vi. Bread **or** beluga caviar
    vii. Salt **or** apartment rent

11. Explain how price elastic and price inelastic demand could be illustrated on the same diagram. **[4 marks]**

12. When comparing the PED of two demand curves, explain why PED must be determined at the same price. **[4 marks]**

13. Using diagrams, explain how total revenue will change if: **[16 marks]**
    i. Demand is elastic and price increases
    ii. Demand is elastic and price decreases
    iii. Demand is inelastic and price increases
    iv. Demand is inelastic and price decreases
    v. Demand is perfectly inelastic and price increases
    vi. Demand is elastic and price increases
    vii. Demand is unitary elastic and price increases
    viii. Demand is unitary elastic and price decreases

14. Explain how a firm can maximise its total revenue by using PED of demand information. **[6 marks]**

15. Using the concept of total variable costs, explain how maximising total revenue at PED = 1 may not result in the maximum profits for the firm. **[4 marks]**

16. Use diagrams to explain how a government could use PED information to decide which goods and services it could tax indirectly. **[10 marks]**

17. Explain why, in general, primary commodities have low PED values relative to manufactured goods. **[6 marks]**

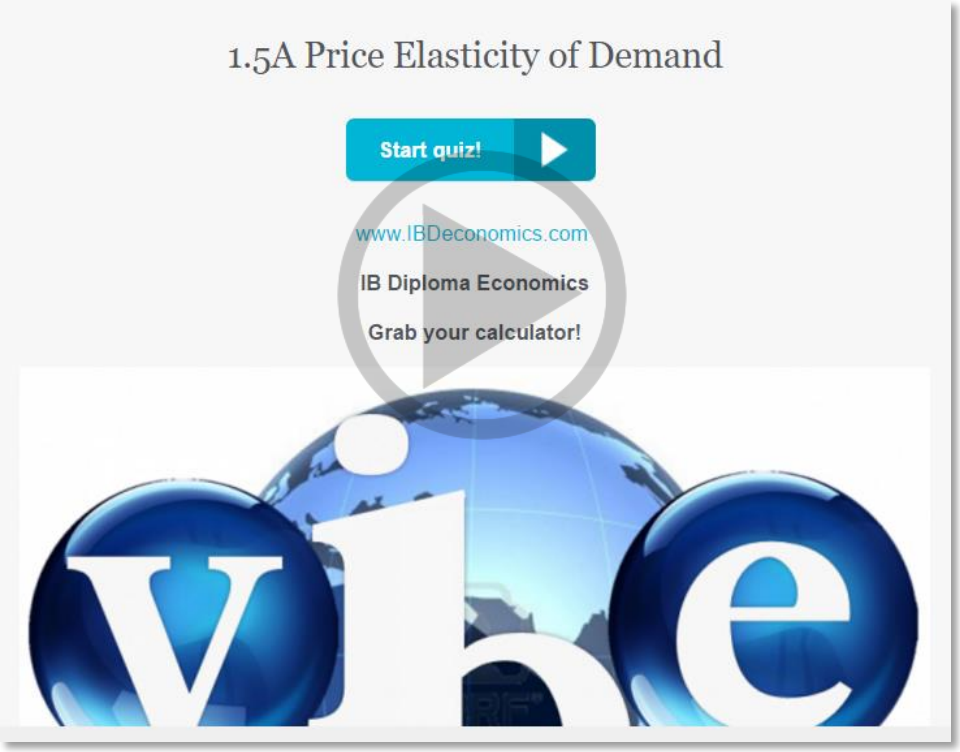
18. Using diagrams, explain why prices of primary commodities are likely to be more volatile (fluctuate more) in the short-term. **[6 marks]**

19. Flooding destroys most of the rice crop in Thailand – the world's largest rice producer. Explain, using diagrams, the effect on total revenues of those rice producers in Thailand that escaped flood damage to their rice crops. **[6 marks]**

20. Using the concept of price elasticity of demand, explain why excise taxes on cigarettes, alcohol and petrol are very effective in increasing government revenues. **[6 marks]**

3. MULTICHOICE QUESTIONS

Complete each interactive quiz. **[50 marks]**



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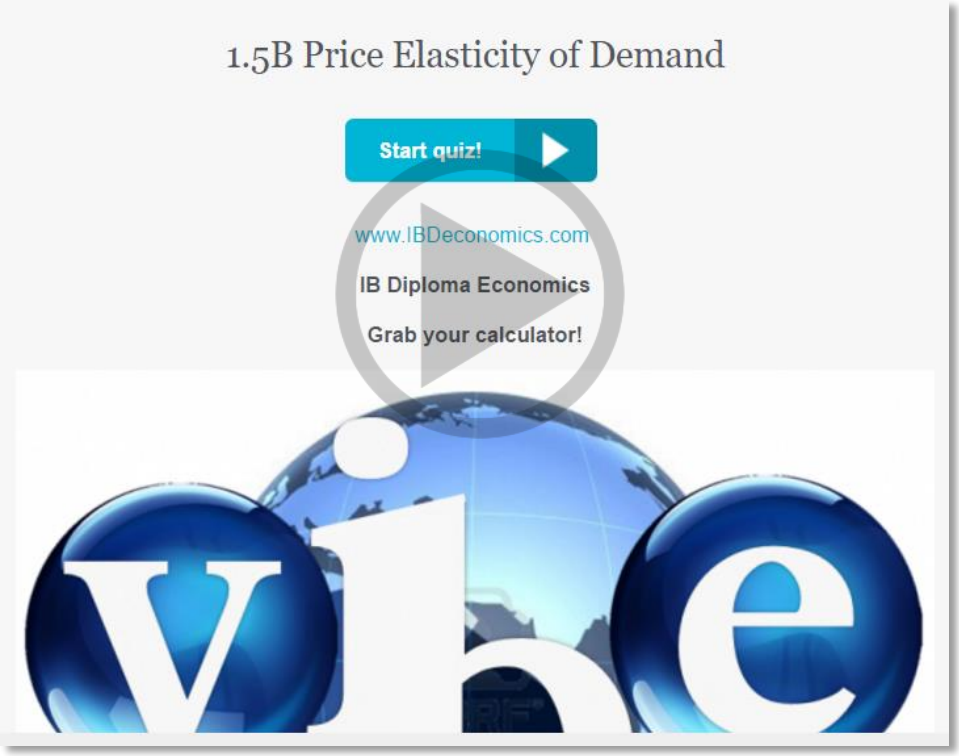

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