Exercise walk-through

Price Elasticity of Supply ▪ 2.4

eXercise

You must be able to

- define **price elasticity of supply (PES) 供给价格弹性**
- calculate PES using the **midpoint (arc) method**
- classify supply as elastic, inelastic, unit, **perfectly elastic**, or **perfectly inelastic**
- explain how the **time horizon** and spare capacity affect PES

Method — PES

$$\text{PES} = \frac{\%\Delta Q_s}{\%\Delta P},$$

using the midpoint method.

Method — Classification

> 1 elastic; < 1 inelastic; $= 1$ unit. A **perfectly inelastic** supply is **vertical** (PES $= 0$); a **perfectly elastic** supply is horizontal.

Method — What makes supply elastic

A longer **time horizon** and more **spare capacity** make supply more elastic — firms can adjust output more.

Practice 2.1 ▪ 1 mark

Define price elasticity of supply.

Solution 2.1

Worked steps

the responsiveness of quantity supplied to a change in price **B1**.

Practice 2.2 ▪ 2 marks

Price rises from $\$8$ to $\$12$ and quantity supplied rises from 40 to 60. Find the PES (midpoint method).

Solution 2.2

Method: PES

Worked steps

$\%\Delta Q = \frac{20}{50} = 40\%$; $\%\Delta P = \frac{4}{10} = 40\%$; PES $= \frac{40}{40} = 1$ (unit elastic) **M1** **A1**.

Practice 2.3 ▪ 1 mark

State how a longer time horizon affects PES.

Solution 2.3

Method: What makes supply elastic

Worked steps

it makes supply more elastic **B1**.

Exam-style 3.1 ▪ 1 mark

Supply is elastic when PES is

A less than 1

B equal to 1

C greater than 1

D zero

Solution 3.1

A less than 1

B equal to 1

C greater than 1 ✓

D zero

Worked steps

C.

Exam-style 3.2 ▪ 1 mark

A perfectly inelastic supply curve is

A horizontal

B vertical

C upward-sloping

D downward-sloping

Solution 3.2

Method: Classification

A horizontal

B vertical ✓

C upward-sloping

D downward-sloping

Worked steps

B.

Exam-style 3.3 ▪ 1 mark

A farm can quickly grow more output using its spare land.
(a) State whether its supply is likely elastic or inelastic.
(b) State one factor that makes supply more elastic.
(c) State the PES of a vertical (fixed-quantity) supply curve.

Solution 3.3

Method: What makes supply elastic

Worked steps

(a) elastic **B1**. (b) a longer time horizon or more spare capacity (any one) **B1**. (c) zero **B1**.