Price Elasticity of Supply (PES)

# Starter: Recap Question

**Instructions:** Test yourself with the below quick question

What factors affect the quantity supplied of a given good?

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# Presentation 1 – Intro to PES

Complete the activities below so as to have a complete set of notes:

**Definition:** *Price Elasticity of Supply*

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Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Key Question:** Why is PES always positive?

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**Fill in in the gaps:** PED values and meanings

*If PES >1* – (e.g. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

% change in supply is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than the % change in price

Supply is price \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Change in Qs is proportionately \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than change in Price

*Extreme:* if PES = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then it is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*If PES <1*– (e.g. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

% change in supply is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than the % change in price

Supply is price \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Change in Qs is proportionately \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than change in Price

*Extreme:*if PES = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then it is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*If PES = 1*

% change in supply is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the % change in price

Supply has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Change in Qs is proportionately \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ change in Price

**Diagrams:** Supply with different PES

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| *Elastic & Perfectly Elastic* | | *Inelastic & Perfectly Inelastic* | |
|  | *Unit Elastic* | |  |

# Task: Price Elasticity of Supply Practice

**Instructions:**

* *Answer the below questions to test your understanding of PES*

**Questions**

What does price elasticity of supply (PES) measure?

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PES = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Calculate the PES for each of the following examples:

1. When the price of Coffee fell from £2 to £1.75 per kg, supply fell from 30 to 20.

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1. When the price of petrol rose from 98p to £1 per litre, supply rose from 45,000 litres per day to 60,000 litres per day.

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1. When vape prices rose from £4.50 to £5.00, supply rose from 225 to 250 cartridges per day.

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1. When the price of uniforms at the local school shop doubled, supply rose from 900 to 990 complete sets.

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1. When airline ticket price’s tripled, the number of flights offered by airlines rose by a third of their previous figure

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# Presentation 2 – Determinants of PES

Complete the activities below so as to have a complete set of notes:

*The level of spare capacity:*

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… therefore influencing PES

*Stock levels:*

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… therefore influencing PES

*The time period under consideration:*

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… therefore influencing PES

# Article Task: The Determinants of PES

**Instructions:**

* Read, highlight, and annotate the article and answer the discussion questions

**Article:**

Alfonso runs the local UGC cinema in Barnet, where there are 10 screens each holding 300 seats. Until recently demand was extremely low, so the only way for Alfonso to ensure all 3,000 seats were filled every night was to lower the price. Hence tickets were only £2 on Mondays to Wednesdays, £4 on Thursdays and £5 on weekends. However, refreshments were sold at a single price of £3 (popcorn) and £1.50 (drinks) throughout the week.

But this was all in the past. Since the new property developments and luxury apartments in Barnet took shape, thousands of young new residents have moved into the area – all of them potential cinema-goers. Alfonso rubbed his hands together at the thought of all the extra revenue he’d make for the cinema. He heard from a local market research agency that demand for cinema tickets could now rise to 10,000 per night at current prices. However, there was no way Alfonso could cater for so many customers. Indeed, his UGC building had a fixed capacity of 3,000 seats only.

So as more and more people moved into Barnet and demanded cinema tickets, prices went up. At the same time, however, more of these cinema-goers were buying popcorn and drinks along with their movies. Initially, Alfonso thought this would be a problem, but his staffs were able to bring in an additional popcorn-making machine to cope with the extra demand. And with hundreds of crates of Coke in the basement, the UGC cinema had no problem serving all the new refreshments that customers demanded.

Over time, so many more people moved into Barnet and wanted to visit the UGC cinema that ticket prices rose to £12. Fearful that this might simply invite competitors to open a new cinema nearby, Alfonso applied to head office for an extension to be built to his cinema.

Head office has just agreed to build an annex containing an extra four screens. This will raise capacity to 4,200 seats, and will ensure that most new customers will be served at a reasonable price. However, the building works won’t even begin until January 2007, as it takes many months to get planning permission from the council, and even longer for the construction firm to hire extra building staff and machines.

**Questions:**

1. In how many markets does the UGC cinema operate? What are these markets?

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1. For each of these markets, what will the supply curve look like in the short-run? In each case, apply the factors determining PES to explain the slope of the respective supply curves.

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1. What will the supply curve for movies look like in the long-run? Why does it require time to become more elastic?

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Extension: Are there any other markets where the supply curve is similar to cinema movies?

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# Assignment: Price elasticity of supply

**Short-answer questions (Section A)**

1. With reference to the reason provided, which of the following is most likely to have a high price elasticity of supply?

A IT technicians, because there is a high demand for their services

B New houses, because they take a long time to build

C Wheat, because large stockpiles are available

D Organic vegetables, because they have close substitutes

[1]

1. Explain **one** factor that will affect the price elasticity of supply of a good.

[2]

1. The price of widgets increased by 11% in 2013. As a result, supply of widgets increased by 5%. Calculate the price elasticity of supply of widgets in 2013.

[2]

1. Good X has a very low price elasticity of supply. Which of the following is most likely to be Good X?

A Toothpaste, because it is an essential good with no close substitutes

B A newspaper, because it forms a relatively insignificant part of the total expenditure of a household

C Soap powder, because enormous sums of money are spent on advertising to develop brand loyalty

D Fresh peaches, because it takes a long time to grow them and they have a short storage period

[1]

1. The price elasticity of supply of new housing:

A Depends on the level of consumer incomes

B Is likely to be greater the shorter the time period under consideration

C Is normally negative rather than positive

D Is likely to be greater the longer the time period under consideration

[1]

**Data response (Section B)**

**The market for copper**

**Figure 1: Copper prices, January 2008 - March 2010**

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**Extract 1: Unstable copper prices**

The price of copper has been highly unstable over the past year. It collapsed from a record level of $8,940 in April 2008 to $2,871 per tonne by December of that year. The steep drop in price followed lower global economic growth, especially from China. The decrease in demand was most noticeable in the motor vehicle and construction sectors which use vast amounts of the metal. Its impact was to reduce profits and share prices of major copper mining companies such as Chile’s Antofagasta.

However, by March 2010, copper prices recovered to almost £7,500 per tonne. This followed disruption to supply in several major copper mines in Chile due to a severe earthquake and a series of strikes by miners, demanding a 7.5% pay rise. The global economy has also recovered from the recession and China is expected to achieve an economic growth rate of 9.5% in 2010. The dramatic fluctuations in copper prices have led some analysts to propose a minimum price scheme.

**Extract 2: Proposals for a major copper mine in Bristol Bay, Alaska**

Rising copper prices has made it profitable to open new mines. The mining companies Northern Dynasty and Anglo-American Corporation have jointly proposed creating North America’s largest open pit mine at Pebble Mill in Bristol Bay, Alaska. It would be 3.2 kilometres long and 610 metres deep. It would also involve building the largest dam in the world to hold back the vast amount of toxic waste created in the mining process. The dam, made of earth rather than concrete, would be 220 metres high and 7 kilometres long. It takes a thousand tonnes of copper ore to produce just one tonne of copper metal.

However, Bristol Bay is home to the world’s most productive wild salmon fishery and there is concern that pollution from the mines would destroy the $400 million a year fishing and canning industries, as well as having a negative impact on tourism. The area already has a history of earthquakes and severe flooding which increase the chances of pollution from the mining project. The local native communities strongly oppose the scheme and the planning enquiry is expected to take several years.

1. With reference to the information provided and your own knowledge, assess whether the supply of copper is likely to be price elastic or price inelastic.

[10]

**Question:** With reference to the information provided and your own knowledge, assess whether the supply of copper is likely to be price elastic or price inelastic. [10]

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| **Planning Grid: Aim = 5 paragraphs - 2 KAA points (6); 2 Eval points (4)** | |
| **KAA Point 1 = signpost key point** |  |
| Application |  |
| Main concept & diagram |  |
| **Eval Point 1 = relate to your earlier point & re-read the title** |  |
| Context / evidence |  |
| **KAA Point 2 = signpost key point** |  |
| Application |  |
| Main concept & diagram |  |
| **Eval Point 2 = relate to your earlier point & re-read the title** |  |
| Context / evidence |  |