LESSON 9 – PRICE ELASTICITY OF SUPPLY (PES)

How Responsive Are Producers?

Slide 1 – Introduction

Good morning everyone.

In the previous lesson, we studied price elasticity of demand, which measures how responsive consumers are to price changes. Today, we shift perspectives again — back to firms.

We ask:

How responsive are producers to price changes?

Because markets depend just as much on the behavior of producers as they do on consumers.

Slide 2 – Opening: Can Firms Respond Quickly?

Let's think about this.

If prices rise: Can firms increase output quickly?

If prices fall: Can firms reduce production easily?

In other words:

How flexible are businesses adjusting to changing market conditions?

To answer this, we introduce:

Price Elasticity Supply, or PES.

Slide 3 – What Is the Price Elasticity of Supply?

Price Elasticity of Supply measures:

The responsiveness of quantity supplied to a change in price.

Just like with demand, it uses percentage changes, not absolute changes.

This allows us to compare responsiveness across different markets.

Slide 4 – The PES Formula

The formula for PES is:

PES = % change in quantity supplied ÷ % change in price

Unlike demand, price and quantity supplied move in the same direction. So PES is usually positive. This reflects the fact that higher prices encourage greater production.

Slide 5 – Worked Example

Let's go through an example.

Suppose price rises by 10%, and quantity supplied rises by 5%.

PES = 5% ÷ 10% = 0.5

Since PES is less than 1, the supply is inelastic. This means firms are not very responsive to price changes. Even though prices increased, output only increased slightly.

Slide 6 – Elastic vs Inelastic Supply

We now classify supply into two types:

Elastic Supply

- PES greater than 1
- Output responds strongly to price changes
- The supply curve is relatively flat

Inelastic Supply

- PES less than 1
- Output responds weakly
- The supply curve is relatively steep

This distinction is critical for understanding how markets adjust.

Slide 7 – Determinants of Elasticity of Supply

Elasticity of supply depends on several key factors.

1. Spare Capacity

If firms have unused capacity, they can increase output quickly. This makes supply more elastic.

2. Stock Availability

If goods can be stored, firms can respond quickly by releasing stock. This increases elasticity.

3. Time Period

Supply becomes more elastic over time. In the short run, adjustments are limited. In the long run, firms can fully adapt.

4. Mobility of Factors

If labor and capital can easily move between industries, supply is more elastic.

5. Production Complexity

Complex production processes make supply more inelastic.

Because adjustments take time and investment.

These determinants explain why some industries respond quickly, while others do not.

Slide 8 – Short Run vs Long Run

This leads us to a key idea: The difference between the short run and the long run.

In the short run:

- Capacity is fixed

- Contracts are rigid
- Supply is often inelastic

In the long run:

- Firms can invest
- New firms can enter
- Supply becomes more elastic

Time is the most important determinant of supplying elasticity.

Slide 9 – Case Study: Private Schools

Let's apply this to private schools.

Private schools face:

- Fixed buildings
- Regulatory limits
- Staffing constraints

These factors limit their ability to expand quickly. So supply is relatively inelastic in the short run.

This is crucial when analyzing policies like taxes. If supply is inelastic, schools cannot easily adjust. So costs are more likely to be passed on as higher fees.

Slide 10 – Common Errors

There are several common mistakes to avoid.

1. Confusing steep curves with "low supply"

Steepness reflects elasticity, not the level of supply.

2. Forgetting the time dimension

Elasticity changes between the short run and long run.

3. Mixing up shifts with elasticity

Elasticity is about responsiveness along the curve, not shifts of the curve.

Avoiding these errors is key to strong exam performance.

Slide 11 – Why PES Matters for Policy

Price Elasticity of Supply has important policy implications.

It affects:

1. Tax burden distribution

Who bears the burden — firms or consumers — depends on elasticity.

2. Speed of market adjustment

More elastic supply allows quicker adjustments to changes.

3. Long-term investment

If supply is elastic, firms are more likely to expand production over time.

Governments must understand supply flexibility when designing policies.

Slide 12 – Summary

Let’s summarize:

PES measures producer responsiveness to price changes.

It uses percentage changes.

Elastic supply means strong responsiveness.

Inelastic supply means weak responsiveness.

Time is the most important determinant.

And elasticity shapes real-world outcomes.

Slide 13 – Conclusion & Forward Look

The key takeaway is this:

Firms do not always respond instantly to price changes. Their ability to adjust depends on constraints, time, and production conditions. Understanding this allows us to better predict how markets behave.

In the next lesson, we will study: Government intervention and taxation — bringing together demand, supply, and elasticity.

Thank you.