**Topic: Supply Shifters**

**LVL I: Answer the Questions that follow**

1. List the non-price determinants (shifters) of supply and define each one.
2. What impact does input costs have on supply of a good/service?
3. What impact does government regulation and taxes have on supply of a good/service?
4. How do technology investments increase supply?
5. List the non-price determinants (shifters) of demand and define each one.
6. **Identify the determinants (shifters) of supply (e.g., changes in costs of productive resources, government regulations, number of sellers, producer expectations, technology, and education) and illustrate the effects on a supply and demand graph.**

The determinants of supply describe the types of changes in a market that will cause the entire supply curve to move to the right or to the left. In other words, all sellers of a good, service, or productive resource will be willing and able to supply more or less of their product at all prices in the market. The shift will cause a change in the equilibrium price and equilibrium quantity in the market.

**Change in the costs of productive resources**

1. **Decrease in costs -** If the resources needed to produce a product become more less expensive, sellers will produce more and supply will increase and shift to the right.
2. **Increase in costs** – If the resources needed to produce a product become more expensive, sellers can produce less and supply will decrease and shift to the right.

**Change in Government Regulations**

1. **Decrease in Regulations -** If the government decreases the regulations on sellers in a market, sellers will produce more of the product and supply will shift to the right.
2. **Increase in Regulations -** If the government increases the regulations on sellers in a market, sellers will produce less of the product and supply will shift to the left.

**Change in Number of Sellers**

1. **Increase in the Number of Sellers -** If the number of sellers in the market increases, there will be more producers of the product, supply will increase and shift to the right.
2. **Decrease in the Number of Sellers -** If the number of sellers in the market decreases, there will be fewer producers of the product, supply will decrease and shift to the left.

**Change in Producer Expectations**

1. **Producers expect the price of their product to fall in the future -** If producers expect the price of their product to fall in the future, they will supply more in the present while the market price is higher. This will cause supply to increase and shift to the right.
2. **Producers expect the price of their product to rise in the future -** If producers expect the price of their product to rise in the future, they will supply less in the present and wait for the price to rise. This will cause supply to decrease and shift to the left.

 **Change in Technology**

1. **Production Technology used to produce a product improves -** If producers implement new, more efficient technology in the production process, supply will increase and shift to the right.
2. **Production Technology, used to produce a product, declines –** This scenario is unusual. This could occur if a natural or cyber disaster destroyed access to production technology for a large number of the market’s producers at one time or if a defect in production technology affects many producers all at one time. If producers lose the benefits of production technology, supply decreases and shifts to the left.

 **Change in Education**

1. **Education of the workers in a market improves -** If many workers in a market improve their education, knowledge, and skills related to the production process, their labor productivity will increase. As a result supply will increase and shift to the right.
2. **Education of the workers in a market declines -** If the education, knowledge, and skills of many workers in a market declines, their labor productivity will decrease. As a result supply will decrease and shift to the left.

**LVL II Application**

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| **Change in the costs of productive resources** | **Effects of a Change in Supply on a Supply and Demand Graph** |
| Example: If the cost of electricity used to power an automotive factories falls, the supply of cars in the market increases. **\_\_\_\_\_\_\_\_\_\_\_\_in Supply** **Equilibrium Price \_\_\_\_\_\_\_\_****Equilibrium Quantity \_\_\_\_\_\_\_\_\_\_**  |         |
| Example: If the price of peanuts rises, then the cost of making peanut butter will increase causing the supply of **\_\_\_\_\_\_\_\_\_\_\_\_in Supply** **Equilibrium Price \_\_\_\_\_\_\_\_****Equilibrium Quantity \_\_\_\_\_\_\_\_\_\_** |   |
| **Change in Government Regulations**  | **Effects of a Change in Supply on a Supply and Demand Graph**  |
| Example: When the U.S. stopped controlling the fares and routes for air travel in 1978, airlines made decisions based on market factors, increasing the supply of flights and the price of air travel fell. **\_\_\_\_\_\_\_\_\_\_\_\_in Supply** **Equilibrium Price \_\_\_\_\_\_\_\_****Equilibrium Quantity \_\_\_\_\_\_\_\_\_\_** |  |
| Example: If the government requires factories to reduce pollution, complying will initially increase costs of production in the market and reduce supply. **\_\_\_\_\_\_\_\_\_\_\_\_in Supply** **Equilibrium Price \_\_\_\_\_\_\_\_****Equilibrium Quantity \_\_\_\_\_\_\_\_\_\_** |  |
| **Change in Number of Sellers**  | **Effects of a Change in Supply on a Supply and Demand Graph**  |
| Example: The demand for pecans from people in China has increased which has increased the market price for pecans. This increased market price has attracted more farmers into the pecan market. As trees become productive, the supply of pecans will increase. **\_\_\_\_\_\_\_\_\_\_\_\_in Supply** **Equilibrium Price \_\_\_\_\_\_\_\_****Equilibrium Quantity \_\_\_\_\_\_\_\_\_\_**  |  |
| **Decrease in the Number of Sellers -** If the number of sellers in the market decreases, there will be fewer producers of the product, supply will decrease and shift to the left. Example: As the demand for DVDs decreased due to consumer preference for streaming movies, the market price for DVDs fell. This lower market price caused sellers to leave the DVD market and supply decreased. **\_\_\_\_\_\_\_\_\_\_\_\_in Supply** **Equilibrium Price \_\_\_\_\_\_\_\_****Equilibrium Quantity \_\_\_\_\_\_\_\_\_\_** |  |
| **Change in Producer Expectations**  | **Effects of a Change in Supply on a Supply and Demand Graph**  |
| Example: If airlines expect prices for airline tickets to fall in September when families are less likely to travel due the school calendar, they will supply more during the summer months when they can charge higher fares. **\_\_\_\_\_\_\_\_\_\_\_\_in Supply** **Equilibrium Price \_\_\_\_\_\_\_\_****Equilibrium Quantity \_\_\_\_\_\_\_\_\_\_** |  |
| Example: If producers expect consumers to be willing to pay a higher price for candy during holidays like Halloween, they will supply less now and put their efforts into producing for the period preceding the holiday when the price is higher. **\_\_\_\_\_\_\_\_\_\_\_\_in Supply** **Equilibrium Price \_\_\_\_\_\_\_\_****Equilibrium Quantity \_\_\_\_\_\_\_\_\_\_**  |  |
| **Change in Technology**  |  | **Effects of a Change in Supply on a Supply and Demand Graph**  |
| Examples: When auto manufacturer were able to implement robotics on the production line, automobiles were produced more quickly and at a smaller cost per unit. This allowed the industry to supply more cars. **\_\_\_\_\_\_\_\_\_\_\_\_in Supply** **Equilibrium Price \_\_\_\_\_\_\_\_****Equilibrium Quantity \_\_\_\_\_\_\_\_\_\_**  |         |  |  |  |
| Example: If a cyberattack interfered with the GPS on which farmers rely to monitor and service their fields for a significant amount of time. **\_\_\_\_\_\_\_\_\_\_\_\_in Supply** **Equilibrium Price \_\_\_\_\_\_\_\_****Equilibrium Quantity \_\_\_\_\_\_\_\_\_\_**  |  |
| **Change in Education**  |  | **Effects of a Change in Supply on a Supply and Demand Graph**  |
| Example: Workers train on a new software package that will increase productivity in the market and allow supply to increase. **\_\_\_\_\_\_\_\_\_\_\_\_in Supply** **Equilibrium Price \_\_\_\_\_\_\_\_****Equilibrium Quantity \_\_\_\_\_\_\_\_\_\_**  |         |  |  |  |
| Example: An economic boom allows skilled workers to move from fast food jobs into white collar office administration jobs. Fast food producers are forced to hire less skilled workers and supply of fast food decreases. **\_\_\_\_\_\_\_\_\_\_\_\_in Supply** **Equilibrium Price \_\_\_\_\_\_\_\_****Equilibrium Quantity \_\_\_\_\_\_\_\_\_\_**  |   |  |  |  |