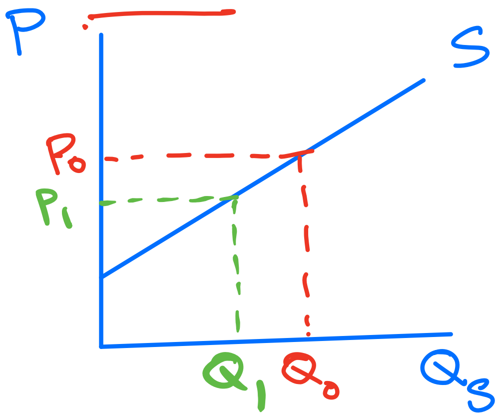
Chapter 5 Supply

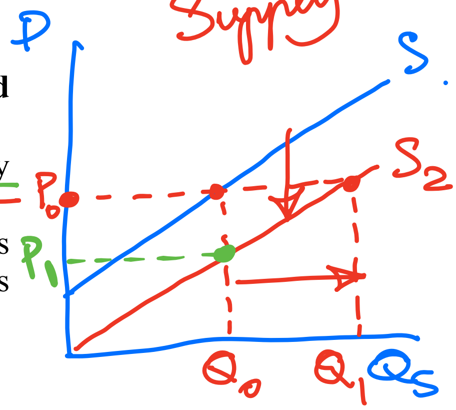
Supply is ***relationship*** between the price and the quantity the seller(s) is (are) ***willing*** and ***able*** to sell.

- At a given price, the quantity sold is called the ***quantity supplied***.
- Statement: When price decreases, the ~~supply~~ quantity supplied. decreases.

at P_0, quantity supplied $= Q_0$



Supply Increases.



Change in Supply and Change in Quantity Supplied

- *Supply increases*: At a given price, the quantity supplied increases.
- *Quantity Supplied increases*: When price decreases the quantity supplied decreases—when the supply is actually unchanged.

at P_0, Q_S increases from Q_0 to Q_1

With $Q_S = Q_0$, the sellers are willing and able to sell at lower price from P_0 to P_1

Law of Supply: Given all factors being equal, if the price decreases (increases)
the quantity supplied decreases. (increasing).

⇔ Price and quantity supplied have direct relationship
⇔ Supply curve has positive slope

Example: A supply curve is given by a function,

intercept

slope

$$(1)\quad Supply: P = 10 + \frac{1}{10} Q_S$$

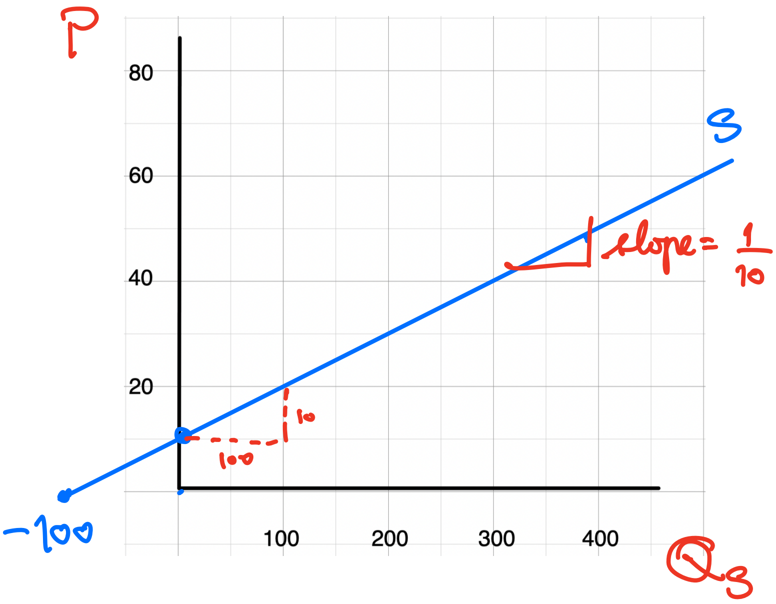
$Q_S = 0,\ P = 10.$

$P = 0,\ Q_S = -100$

$(2)\quad Q_S = -100 + 10P$

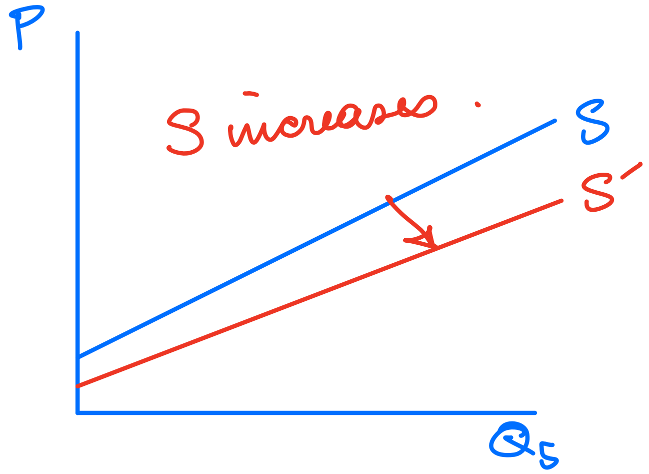
$\frac{1}{\text{slope}}$ of the graph

- Plot of Supply Curve:

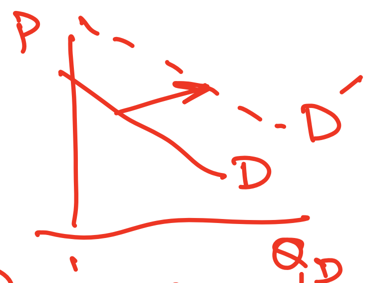


Factors that can change the Supply

1. Technology – better ⇒ S increases.



S shifts to the right.

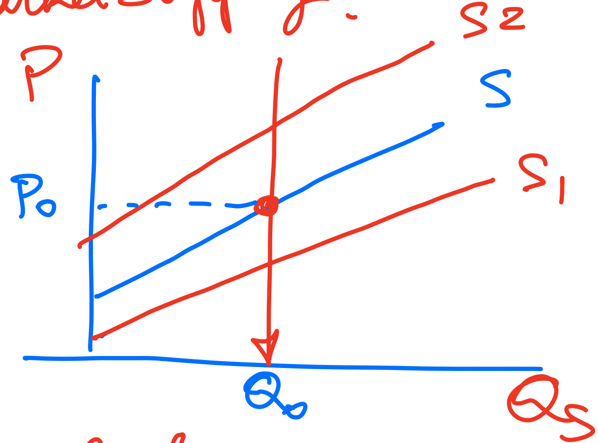


D increases by shifting to the right.

2. Number of sellers

more sellers ⇒ S increases

Market Supply.



3. Expectation

4. Price and quality of inputs

Price of gasoline is higher.

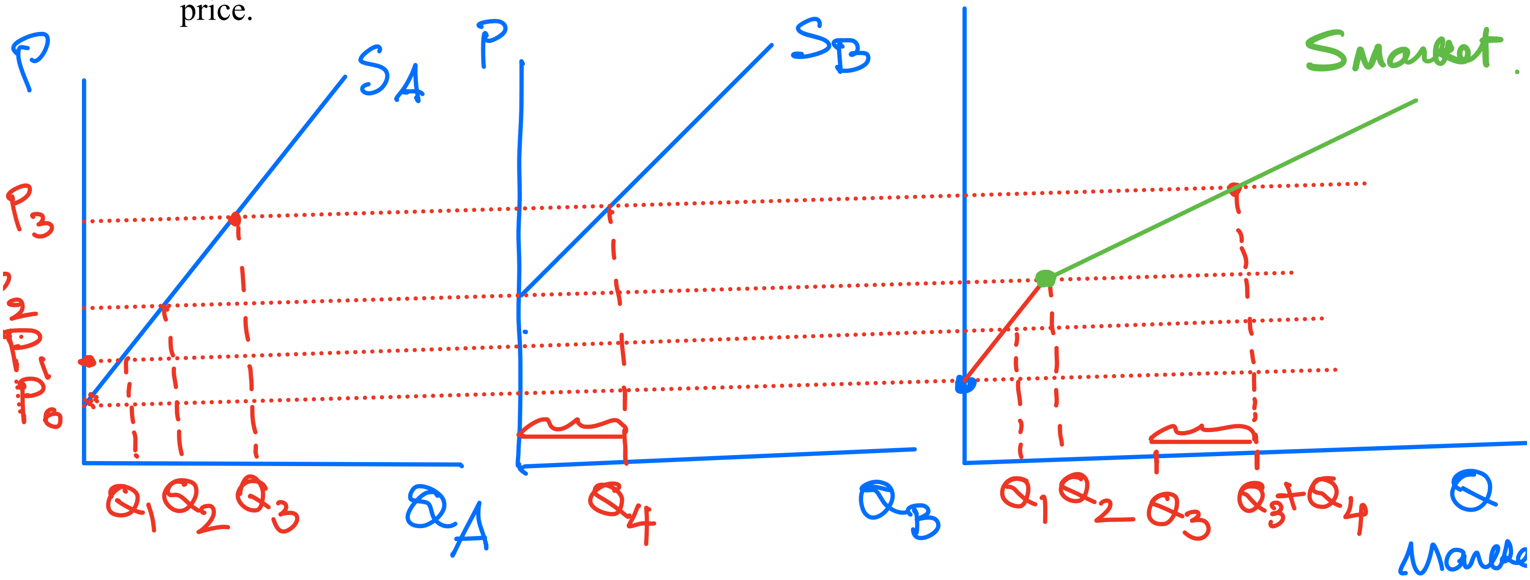
⇒ S of goods decreases.

better Trained workers (more productive)

⇒ S increases.

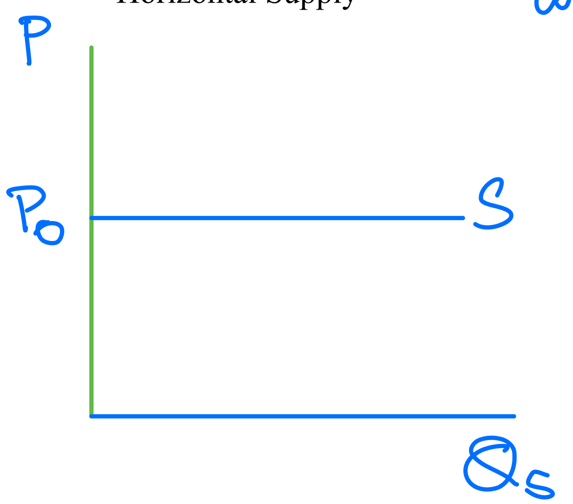
Individual and Market Supplies

- Market supply is the summation of individual supplies of all sellers in the market.
- At each price, the quantity supplied of the market is sum of all quantities supplied of all sellers at that price.



Extreme Cases of Supply Curve

- Horizontal Supply

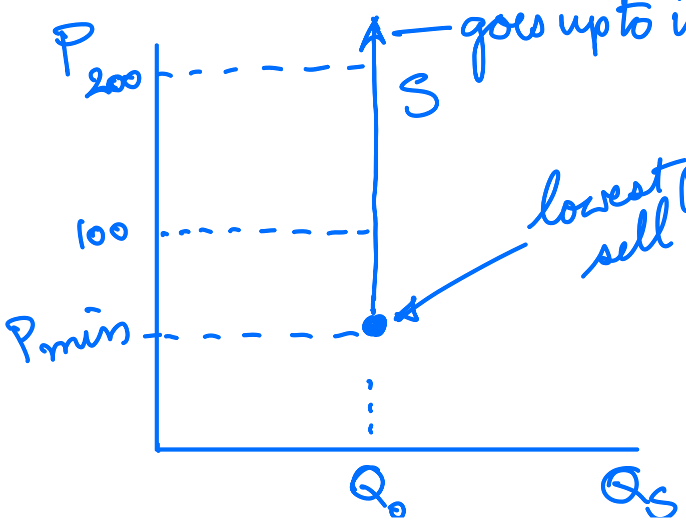


at P_0, the seller(s) is (are) willing and able to sell "infinity", meaning sell as much as the buyers want

at $P < P_0$, $Q_S = 0$

and $P \geq P_0$, $Q_S = \infty$

- Vertical Supply



goes up to infinity.

lowest price the seller wants to sell.

$Q_S = Q_0$ for $P \geq P_{min}$

$Q_S = 0$ if $P < P_{min}$

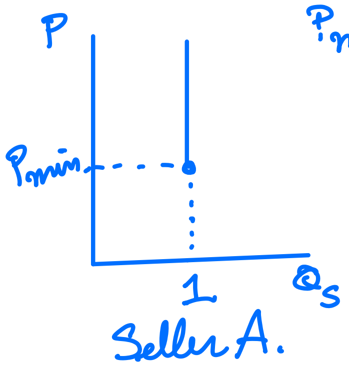
Cabbage.

— in these extreme cases.

2

HW: Suppose that it is legal to sell one's kidney. What is the individual supply of kidney of a person who wants to sell his kidney? Does the market supply respond with a higher quantity supplied if the price of kidney increases?

P_{min} depends on the willingness of each seller.



HW Let A be a person who is willing to sell one of his kidney & so that his supply of kidney is vertical at $Q_S = 1$ with any price at least 100 million baht. If A's supply of kidney increase, how would his Supply curve change?

Question: If individual supplies of sellers are all horizontal at different prices, what will be the market supply?