1

MICROECONOMICS

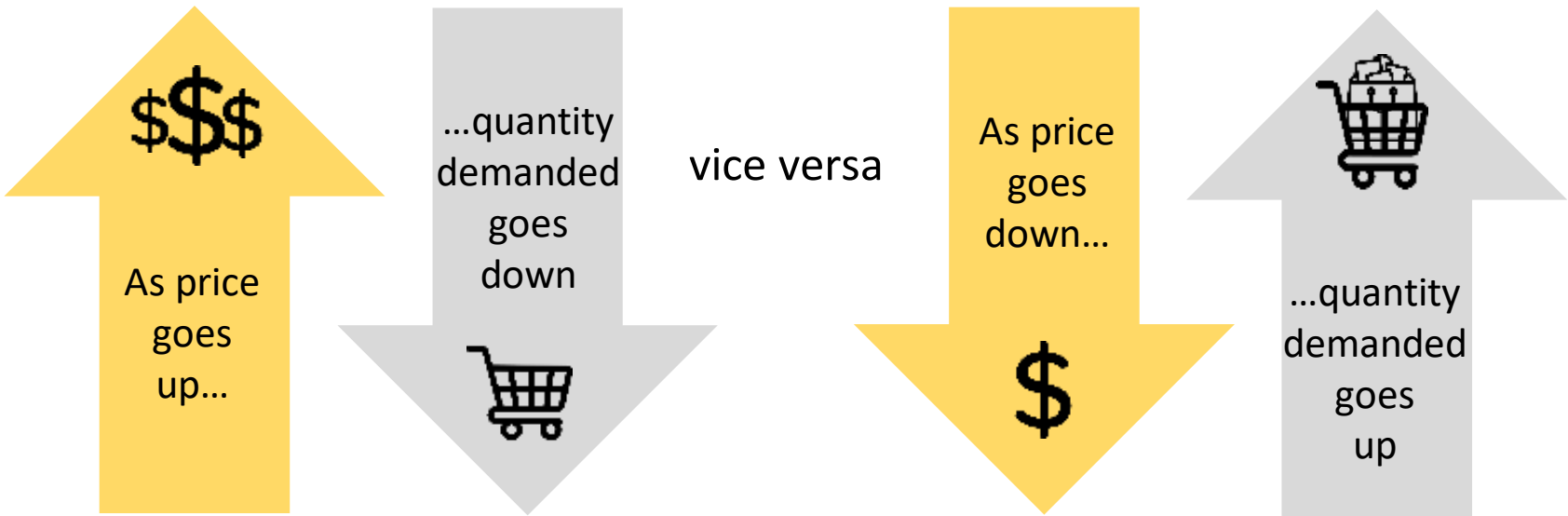
LEARNING OUTCOME

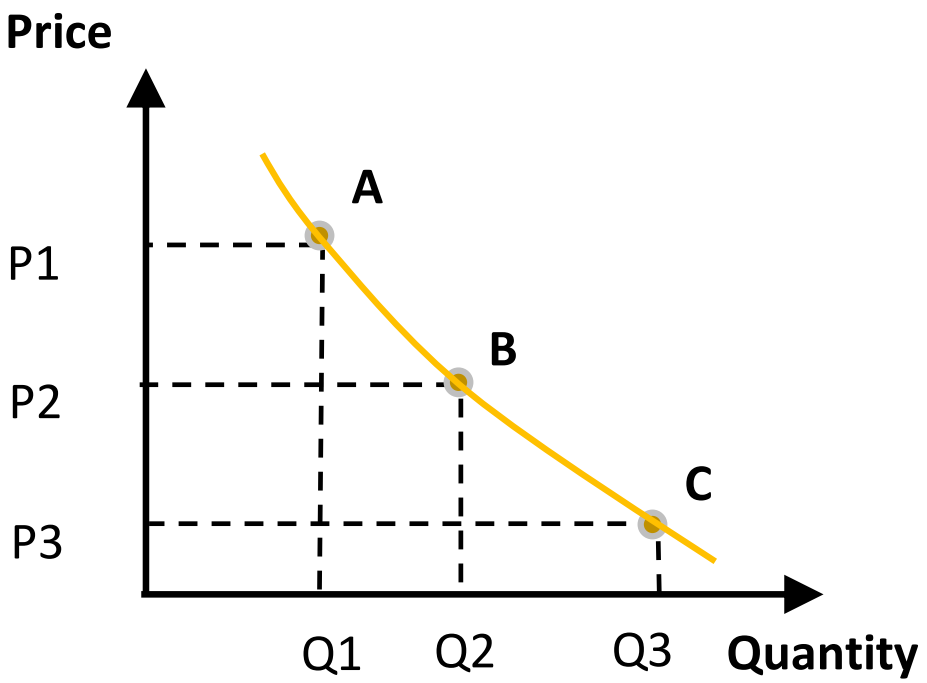
- Describe factors that affect quantity demanded;
- Describe how demand for a product or service is affected by substitute and complementary products and services;
- Describe factors that affect quantity supplied;
- Describe market equilibrium;
- Describe and interpret price and income elasticities of demand and their effects on quantity and revenue;
- Distinguish between accounting profit and economic profit;
- Describe production levels and costs, including fixed and variable costs, and describe the effect of fixed costs on profitability;
- Identify factors that affect pricing;
- Compare types of market environment: perfect competition, pure monopoly, monopolistic competition, and oligopoly.

I. DEMAND AND SUPPLY

1. Demand

The law of demand





Demand curve

A graphical representation of the relationship between the price of a good or service and the quantity demanded for a given period of time.

At point A, the price is higher (P1) and the quantity demanded is lower (Q1) compared to point B and C

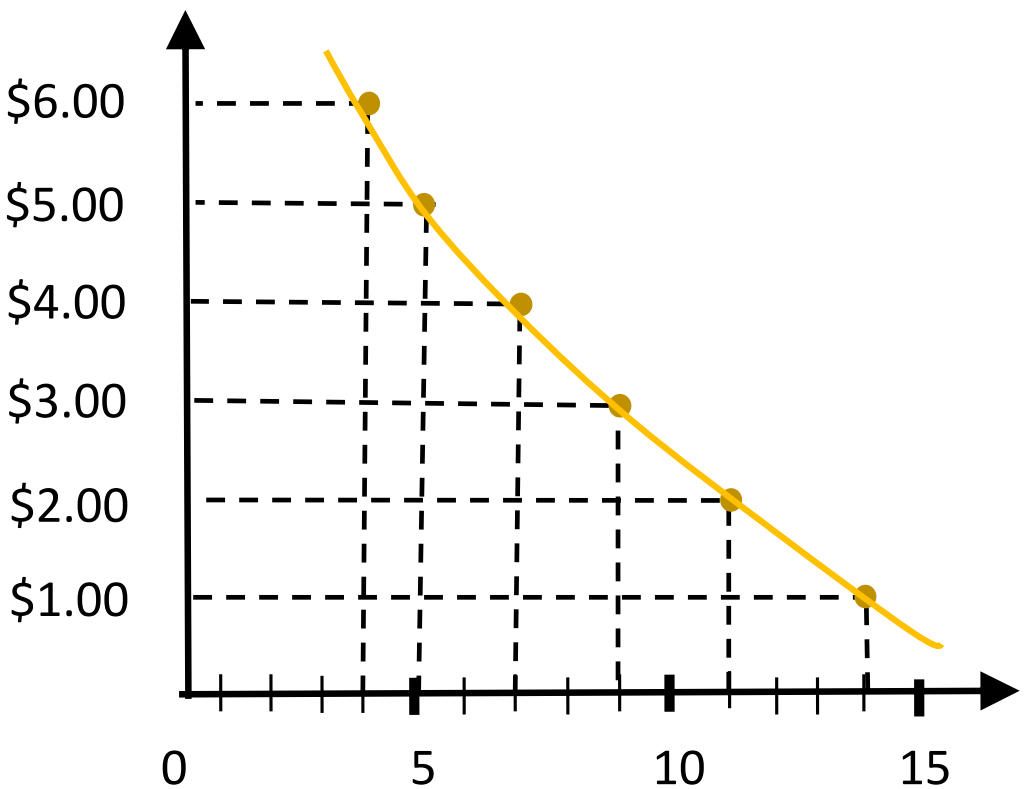
I. DEMAND AND SUPPLY

1. Demand

The law of demand example

Sam's demand for lattes – Notice that Sam's preferences obey the law of demand. *Quantity of lattes demanded will increase when their price falls, vice versa.*

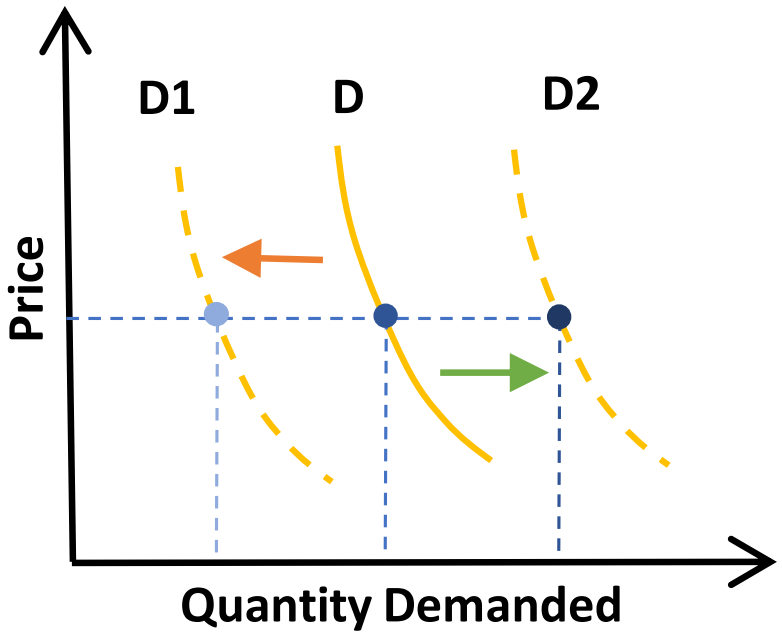
Price of lattes	Quantity of lattes demanded
$1.00	14
$2.00	11
$3.00	9
$4.00	7
$5.00	5
$6.00	4



I. DEMAND AND SUPPLY

1. Demand

Shift of the demand curve



A change in a factor (income, population,…) may make the product more attractive/ unattractive

D1

Demand shift to the left, meaning that people will demand less of the product at a given price.

Demand shift to the right, meaning that people will demand more of the product at a given price.

D2

I. DEMAND AND SUPPLY

1. Demand

Main factors that affect the demand for products and services	
Income	A change in demand for a product resulting from a change in consumer buying power is called the income effect. *E.g: When income increases without any change to prices, this makes consumers able to purchase more **normal goods** at the same price, and they tend to spend less on **inferior goods.***

	Normal goods	**Inferior goods**
Meaning	Goods whose demand rise when consumers' income rises	Goods whose demand decline when consumers' income rises
Example	When income increases, people gain more spare money to buy furniture, clothes, automobiles,…	When income increases, people gain more spare money, leading to the decrease in needing noodles, canned food, second-hand clothes; which are substituted by higher quality goods.

I. DEMAND AND SUPPLY

1. Demand

Main factors that affect the demand for products and services

Expected Future Price	Both the **expected future price** and **current demand** move in **the same direction.**
	Example: if consumers expect that the price of rice will increase as a result of a shortage, the current quantity of rice demanded may increase as consumers accumulate it to avoid paying a higher price in the future.
General Tastes and Preferences	Changes in consumers' general tastes and preferences may also affect a product's demand curve.
	Example: if a report that links eating chocolate to better health is published, demand for chocolate bars may increase.

I. DEMAND AND SUPPLY

1. Demand

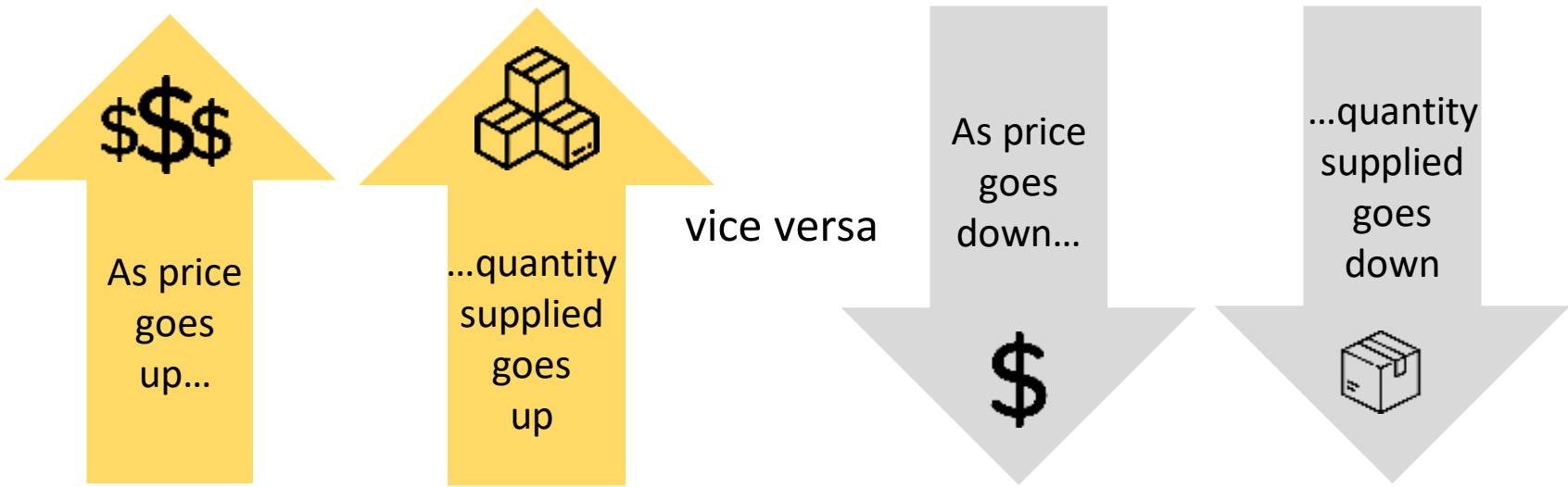
Main factors that affect the demand for products and services

Prices of Other Products The effect of a change in the prices of other products on a product's demand curve depends on the type of relationship between the products.	**Substitute goods**	a product that could generally **take the place of** (substitute for) another product.
		Pepsi is a substitute goods for Coca, and vice-versa. When the price of Coca goes up, demand for Pepsi will subsequently rise (if Pepsi does not raise its price).
	Complementary goods	Products that are frequently ***consumed together*.**
		Printing paper and ink cartridges. If the price of ink cartridges increases, consumers may print less and purchase both less ink cartridges and printing paper.

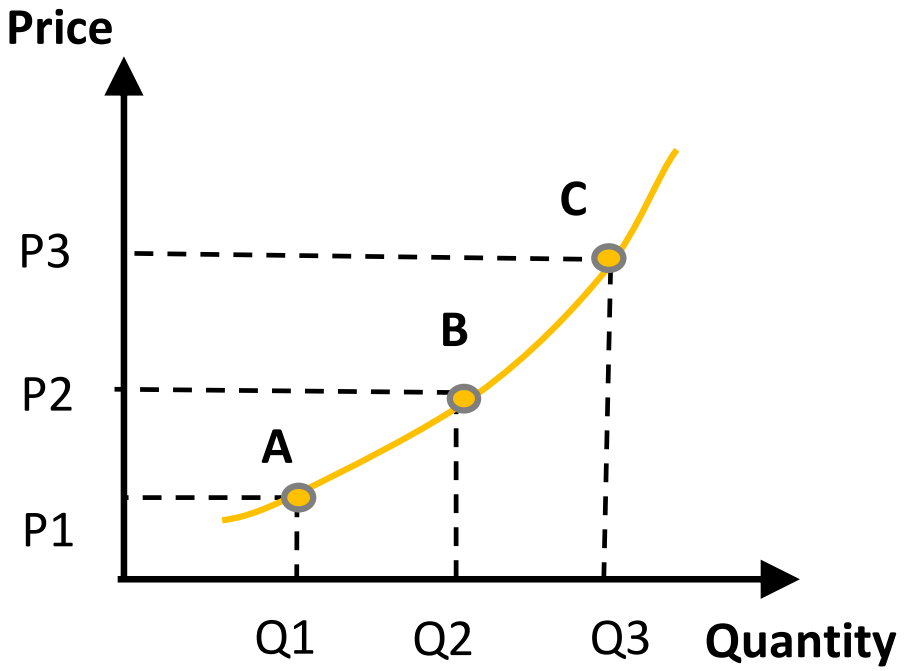
I. DEMAND AND SUPPLY

2. Supply

The law of supply



Supply curve



The representation of the relationship between the price of a good or service and the quantity supplied for a given period of time.

At point A, the price is lower (P1) and the quantity supplied is lower (Q1) compared to point B and C

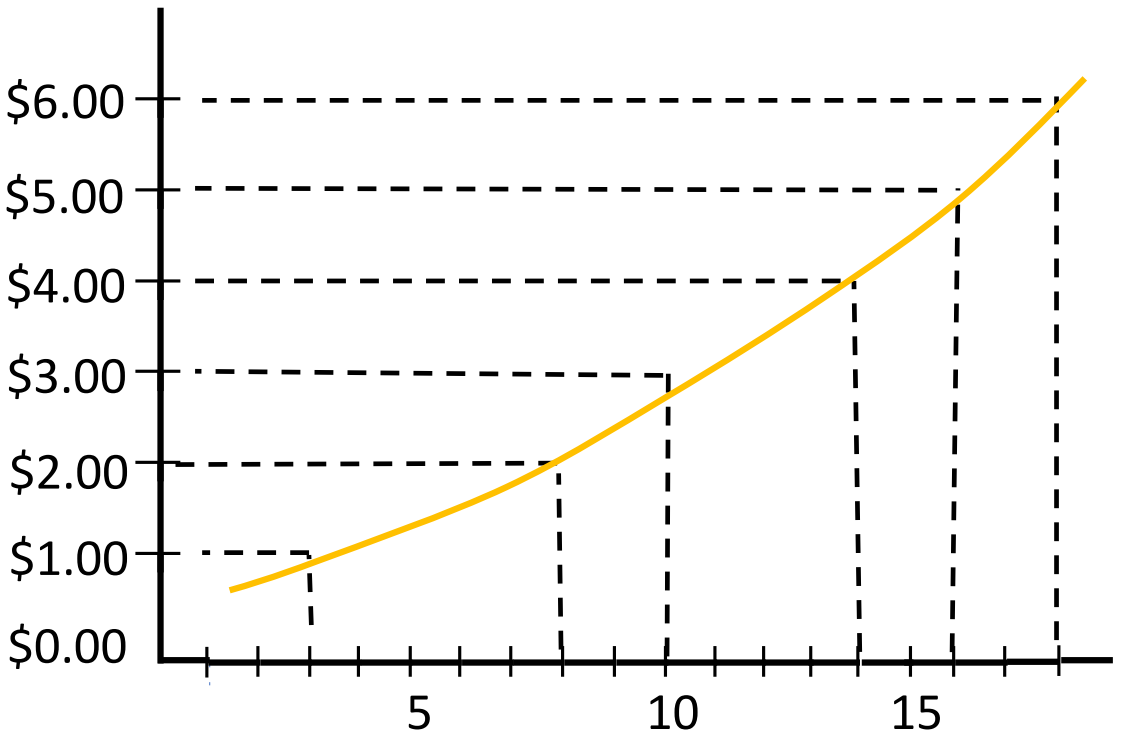
I. DEMAND AND SUPPLY

2. Supply

The law of supply example

Starbucks' supply of lattes – Notice that Starbucks' supply schedule obeys the law of supply. *Quantity of lattes demanded increases when their price increases, vice versa.*

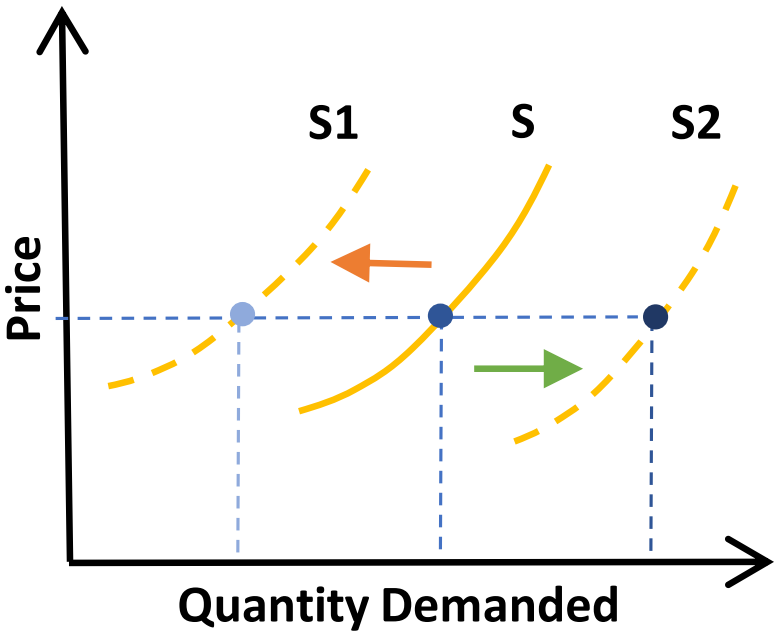
Price of lattes	Quantity of lattes supplied
$0.00	0
$1.00	3
$2.00	8
$3.00	10
$4.00	14
$5.00	16
$6.00	18



I. DEMAND AND SUPPLY

2. Supply

Shift of the supply curve



A change in a factor (production cost, tax,…) might affect the supply of a product

S1

Supply shift to the left, meaning that supplier will supply a product less at a given price.

Supply shift to the right, meaning that supplier will supply a product more at a given price.

S2

I. DEMAND AND SUPPLY

2. Supply

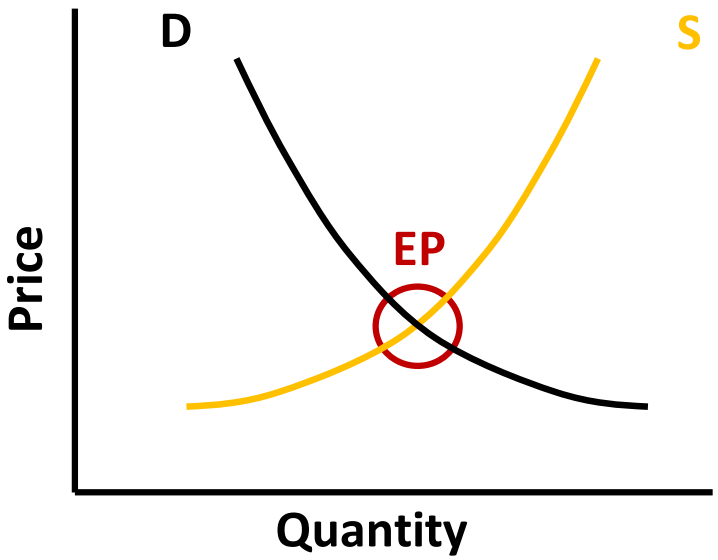
Main factors that affect the products and services supply

Production cost	An increase/ decrease of production cost might affect the quantity supplied. The production cost includes wages, material, overhead. ***Ex:*** *Lower wages, lower material costs, and lower overheads due to technology improvement leads to the lower cost of production. This means business can produce more at each price, thus increase supply.*
Taxes	Tax might impact on the cost of goods, thus, quantity supplied is also impacted. ***Ex:*** *The government increases the tax on tobacco, this leads to higher expense when selling this products and lower profit. Business might reduce the supply of tobacco*

I. DEMAND AND SUPPLY

3. Market Equilibrium

Market equilibrium is the state in which market **supply** and **demand balance** each other, and as a result prices become stable



The equilibrium price

The equilibrium price (EP) is the price at which the quantity demanded (D) equals the quantity supplied (S)

Characteristic

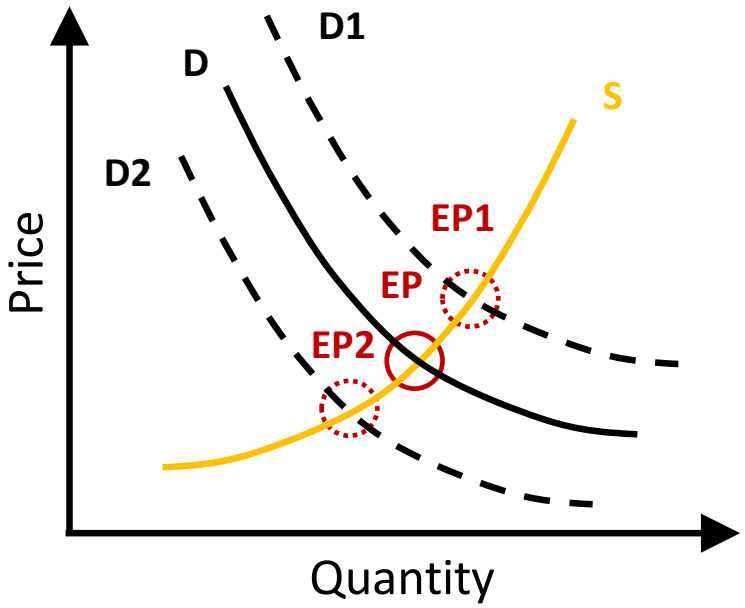
If the price is below the equilibrium price, consumers will demand more of a product than suppliers find it profitable to produce.

At any price above the equilibrium price (EP) in the Exhibit above, suppliers are willing to produce more of a product than consumers are willing to buy.

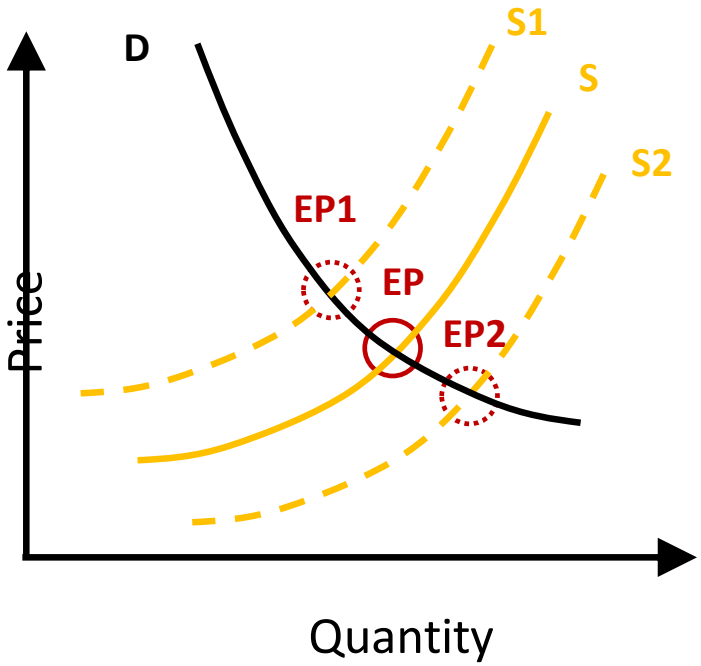
I. DEMAND AND SUPPLY

3. Market Equilibrium

Relationship between change in equilibrium price and the shifts of demand/supple curve



If demand increases while supply curve stays the same, the result is an increase in the equilibrium price and quantity, from EP to EP1, vice versa.



If supply increases while demand curve stays the same, the result is a decrease in the equilibrium price and and an increase in quantity, from EP to EP2, vice versa.

I. DEMAND AND SUPPLY

Vocabulary

Vocabulary	Meaning
Equilibrium	Điểm cân bằng
Effect	Ảnh hưởng
Law of demand/supply	Quy luật cầu/cung
Complementary goods	Hàng hoá bổ sung, đi kèm
Substitute goods	Hàng hóa thay thế
Income	Thu nhập
Shift	Dịch chuyển
Inferior goods	Hàng hóa thứ cấp
Normal goods	Hàng hóa thông thường

II. ELASTICITIES OF DEMAND

1. Price Elasticity of Demand (PED)

Definition

Price Elasticity of Demand is a **measure** of the **responsiveness** of the **quantity** demanded to a **change in price**

Formula

$$\text{PED} = \frac{\%\ \text{Change in quantity demanded}}{\%\ \text{Change in price}}$$

$$= \frac{\%\ \Delta Q_D}{\%\ \Delta P}$$

Sign

According to the **law of demand**, demand decreases when price increases, vice versa, demand increases when price decreases. Therefore, **price elasticity of demand** is always **negative**

Magnitude

Provides information about the strength of the relationship between quantity demanded and changes in price.

$$\left|\text{PED}\right| = \left|\frac{\%\ \Delta Q_D}{\%\ \Delta P}\right|$$

II. ELASTICITIES OF DEMAND

1. Price Elasticity of Demand

Magnitude	Classification	Description	Example
$\|PED\| = 0$	Perfectly inelastic	$\%\Delta Q_D = 0$ The change in price does not impact on demand. This might be because these goods or service are must-have items and do not have any subtitutes.	Special medicine, …
$\|PED\| < 1$	Relatively inelastic	$\%\Delta Q_D < \%\Delta P$ The change in price does not have much impact on demand. This might be because these goods are essential or have no close subtitutes.	Water, petrol, …
$\|PED\| = 1$	Unitary elastic	$\%\Delta Q_D = \%\Delta P$ the proportion of change in demand for goods and services is equal to proportion of change in its price	In fact, this case rarely happens
$\|PED\| > 1$	Relatively elastic	$\%\Delta Q_D > \%\Delta P$ The change in price impacts on demand relatively. This might be because these goods have many subtitutes	Pork, beef, chicken,…

II. ELASTICITIES OF DEMAND

1. Price Elasticity of Demand

Example of Price Elasticity of Demand

Question:

When the price of radio increased from $20 to $22, the quantity of radios demanded decreased from 100 to 87.

What is the price elasticity of demand for radios?

Answer:

The price increases from $20 to $22.
→ % change in price = (22-20)/20 = 2/20 = 0.1 = 10%
Quantity fell by: (87-100)/100 = -13/100 = – 0.13 = -13%
→ PED = -13%/10% = - 1.3
→ Magnitude: |PED| = 1.3 > 1
→ This is relatively elastic as radio is not an essential item, consumers might choose to buy it if the price is low, or they can use TVs or their cellphones instead.

II. ELASTICITIES OF DEMAND

1. Price Elasticity of Demand

Cross-price Elasticity of Demand

Cross-price Elasticity of Demand is the **change in the quantity demanded** of a product in response to **a change in the price of another product.**

- Cross price elasticity **> 0**: the goods are **substitute**
- Cross price elasticity **< 0**: the goods are **complement**

$$E_{py}^{dx} = \frac{\%\Delta Q_x^d}{\%\Delta P_y}$$

Example:

If a 5% increase in the price of coffee leads to a 7% decrease in the quantity demanded of cream, then the cross-price elasticity of demand is:

$$\frac{-7\%}{+5\%} = -1.4$$

If a 5% increase in the price of coffee leads to a 7% increase in the quantity demanded of tea, then the cross-price elasticity of demand is:

$$\frac{+7\%}{+5\%} = +1.4$$

II. ELASTICITIES OF DEMAND

2. Income Elasticity of Demand

Definition

Measuring the effect of changes in income on quantity demanded of a product when other factors remain the same.

Example

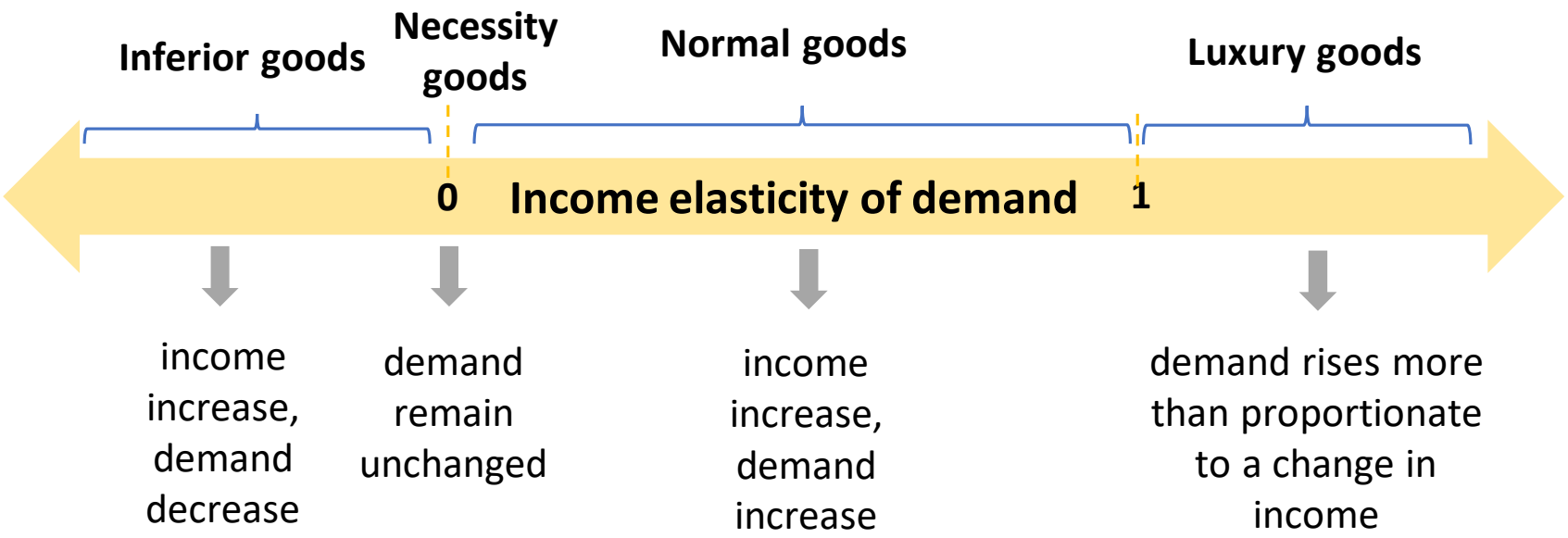
If there is an economic downturn, people will save their money instead of spending on luxury items such as expensive watches,..

Equation

$$E^{d}_{income} = \frac{\%\Delta Q^{d}_{x}}{\%\Delta I}$$

$$= \frac{\text{\% Change in quantity demand}}{\text{\% Change in income}}$$

Effects on goods



II. ELASTICITIES OF DEMAND

Vocabulary

Vocabulary	Meaning
Elasticity of demand	Tính co giãn của mức cầu
Own-Price elasticity	Độ co giãn của cầu theo giá
Cross- price elasticity of demand	Độ co giãn chéo của mức cầu
Income elasticity of demand	Độ co giãn của cầu theo thu nhập
Sign and Magnitude	Dấu hiệu & độ lớn
Necessity goods	Hàng hóa cần thiết
Luxury goods	Hàng hóa xa xỉ

III. PROFIT AND COSTS OF PRODUCTION

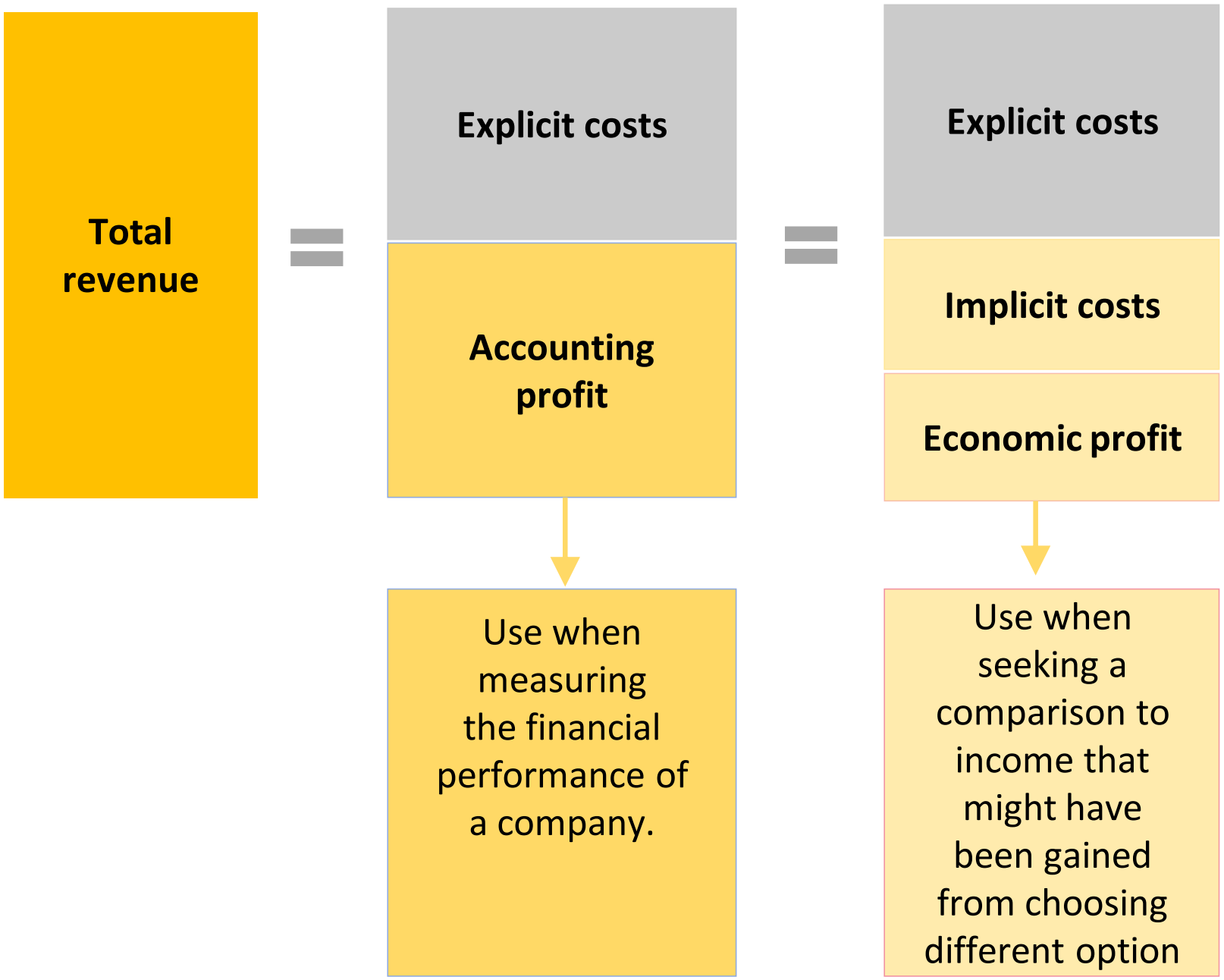
1. Accounting Profit vs. Economic Profit

Total revenue

Total costs		+	**Profit**	
Explicit costs	**Implicit costs = Opportunity cost**		**Accounting profit**	**Economic profit**
a direct payment made to others in the course of running a business *(ex: wages, rent, material,…)*	the value forgone by choosing a particular course of action relative to the best alternative that is not chosen		company's net earnings on its income statement	difference between the revenue received from the sales and the costs (including implicit costs)

III. PROFIT AND COSTS OF PRODUCTION

1. Accounting Profit vs. Economic Profit

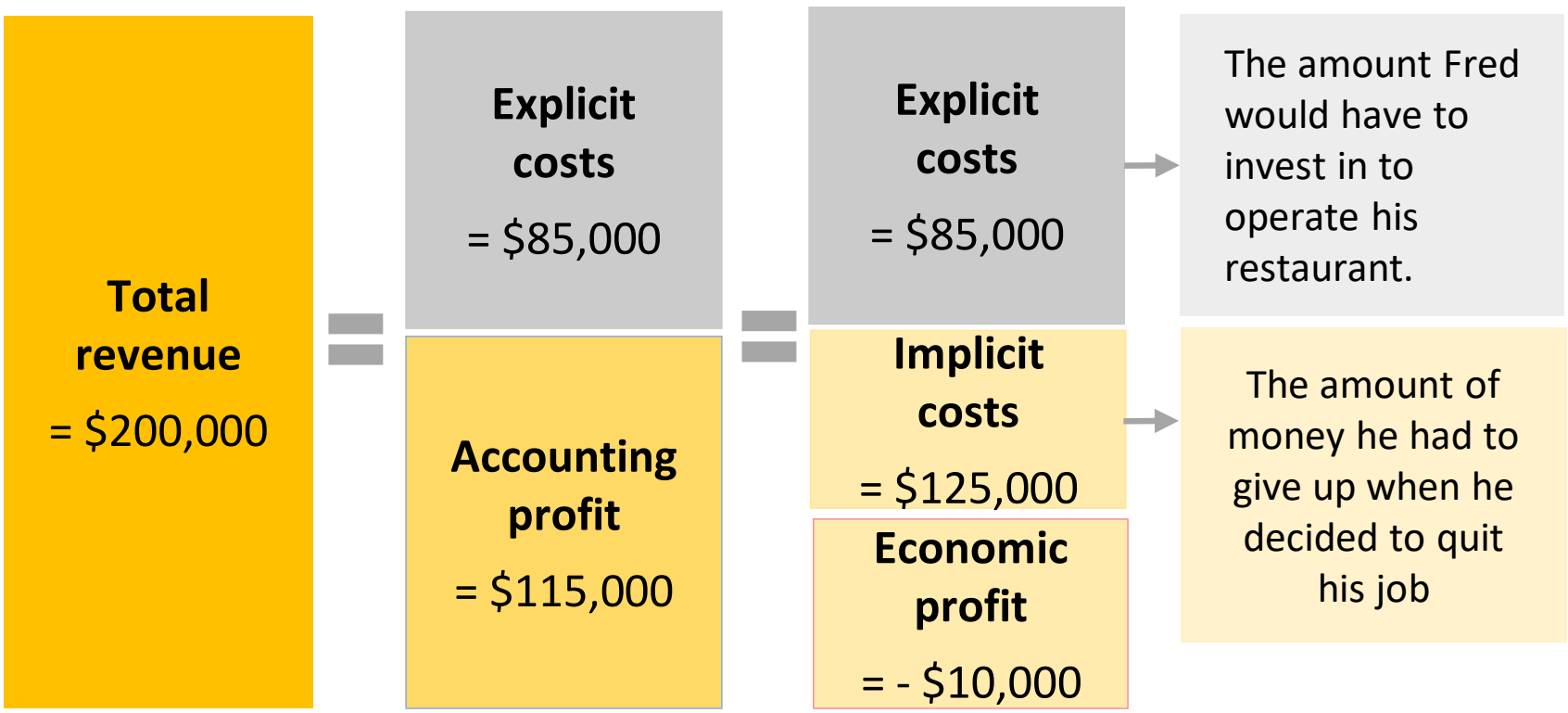


III. PROFIT AND COSTS OF PRODUCTION

1. Accounting Profit vs. Economic Profit

Example for Accounting profit and Economic profit

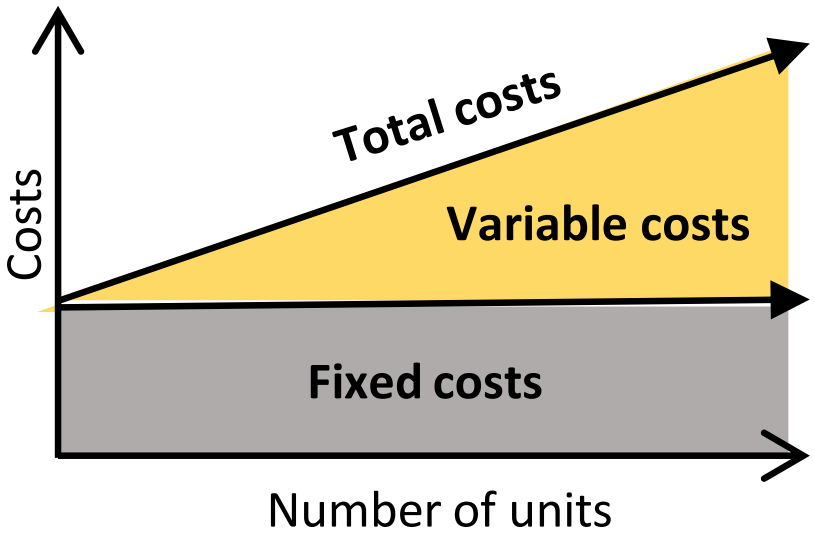
Fred currently works for a company and he has annual salary of $125,000 . He is considering opening his own restaurant, where he expects to earn $200,000 per year. He would need $85,000 of for all the expenses, such as rent, wages, raw food per year. If these figures are accurate, would Fred's restaurant be profitable?



If Fred quited his job and opened his own restaurant, he would make a loss of $10,000 per year. That does not mean he would not want to open his own business, but it does mean he would be earning $10,000 less than if he worked for his current company.

III. PROFIT AND COSTS OF PRODUCTION

2. Fixed Costs vs. Variable Costs



Costs that **fluctuate** with **the level of output** of the company

Costs that **do not fluctuate** with the **level of output**

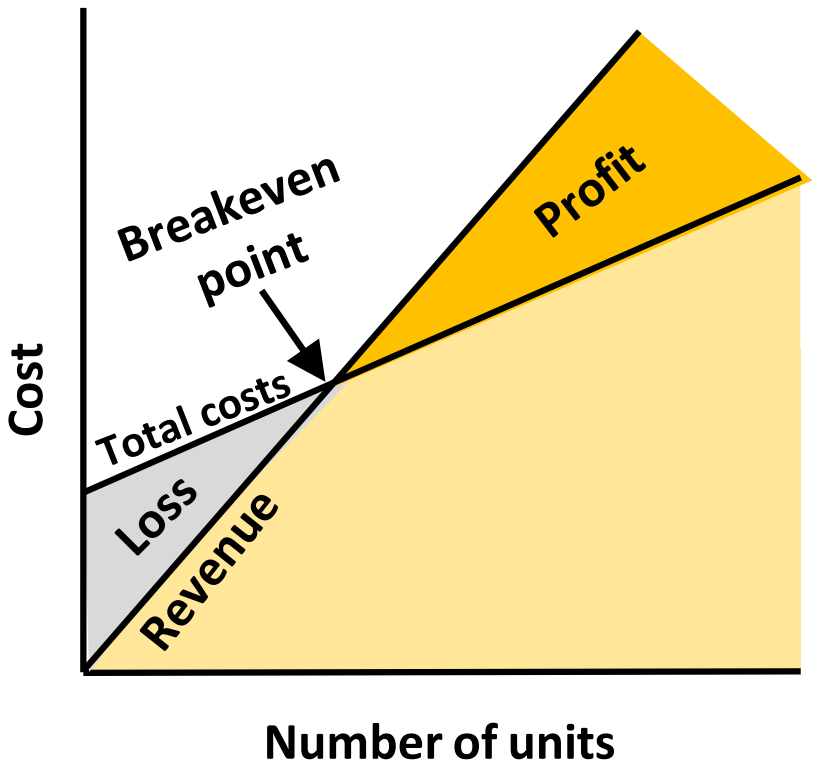
Example: Fixed costs vs. Variable cost

XYZ Company manufactures automobiles and it costs the company $250 to make one steering wheel. In order to run its business, the company incurs $550,000 in rental fees for its factory space.

Number of units produced	Variable Cost per Steering Wheel	Total Variable Cost	Total Fixed Cost
1	$250	$250	$550,000
500	$250	$125,000	$550,000

III. PROFIT AND COSTS OF PRODUCTION

2. Fixed Costs vs. Variable Costs



If the **revenues are higher** than the total **costs**, the company is making a **profit**.

If the **revenues are lower** than total **costs**, the company is suffering a **loss**

Breakeven point

- The point at which the revenue and total costs lines intersect
- Reflect the number of units produced and sold at which the company's profit is zero—that is, revenues exactly cover total costs.

III. PROFIT AND COSTS OF PRODUCTION

3. Profit maximization theory

Marginal revenue (MR)	Marginal cost (MC)
Is the amount of money a company receives for selling that additional unit	Is the cost that incurs for producing that additional unit

Profit Maximization Rule

MR > MC	MR < MC
for each extra unit produced, **revenue** will be **higher than the cost**	for each extra unit produced, the **cost** will be **higher than revenue**
↓	↓
Produce more	Produce less
↓	↓

Thus, company should produce until **MC = MR**
→ **Profit is maximized**

III. PROFIT AND COSTS OF PRODUCTION

Vocabulary

Vocabulary	Meaning
Breakeven point	Điểm hòa vốn
Revenue	Doanh thu
Cost	Chi phí
Profit	Lợi nhuận
Explicit cost	Chi phí hiện
Implicit cost	Chi phí ngầm
Opportunity cost	Chi phí cơ hội
Fixed cost	Chi phí cố định
Variable cost	Chi phí biến đổi
Operating leverage	Đòn bẩy hoạt động
Marginal cost	Chi phí cận biên
Marginal revenue	Doanh thu cận biên

IV. PRICING

Key factors that affect the price

Product's characteristics	▪ If a product has **no unique characteristics**, substitute products can **be easily found**. ▪ If a product has **a unique identity**, it is **less price sensitive,** which gives its producer the ability to charge higher prices and obtain higher profits.
The state of the market for the product	▪ If **demand** for a product **is greater** than the amount supplied, producers of **competing** products will **benefit** from it**.** ▪ If **supply** for a product **is interrupted**, buyers frantically **chase the limited supplies** and **bid up prices.**
Other elements	Income levels and elasticity also influence the pricing of products. Producers within an industry may have more pricing power as a group as disposable income increases. *Ex: demand for mobile communications services in Vietnam will increase in general if income level increases*

IV. PRICING

Vocabulary

Vocabulary	Meaning
Factor	Nhân tố
Characteristic	Đặc điểm
Sensitive	Dễ bị ảnh hưởng
Producer	Người sản xuất
Obtain	Thu được
Interrupted	Gián đoạn
Bid up	Tăng

V. MARKET ENVIRONMENT

Characteristics of the 4 market structures: perfect competition, monopolistic competition, oligopoly, monopoly

	Perfect competition	Monopolistic competition	Oligopoly	Monopoly
Number of sellers	Many firms	Many firms	Few firms	Single firms
Barriers to entry	Very low	Low	High	Very high
Nature of substitute products	Very good substitutes (identical)	Good substitutes but differentiated	Very good substitutes or differentiated	No good substitutes
Factors to compete on	Price only	Price, marketing, features	Price, marketing, features	Advertising
Pricing power	None	Some	Some to significant	Significant

IV. MARKET ENVIRONMENT

Vocabulary

Vocabulary	Meaning
Perfect competition	Cạnh tranh hoàn hảo
Monopolistic competition	Cạnh tranh độc quyền
Oligopoly	Độc quyền nhóm
Monopoly	Độc quyền