

ECONOMICS 1.1: THE STUDY OF ECONOMICS

I. Individual Choice: The core of Economics

- **Economics**: the study of scarcity and choice
- **Individual choice**: decisions by individuals about what to do, necessarily involve decisions about what not to do.
 - Example: in a large store, you can't buy everything due to budget and space limits → you must choose which to buy.
- **Economy**: A system for coordinating a society's productive and consumptive
 - **Market economy**: economic system where individuals producers / consumers make most decisions (what, how, whom to produce)
 - * minimum government intervention.
 - **Command economy**: owned industries and makes all decisions about what to produce and how to distribute goods
 - **Root problems**:
 - lack of incentives: rewards, punishments → choices
 - inefficiency / lack knowledge
 - limited consumer choice.
- **Property rights**: establish ownership - enable trade - use resources efficiently
- Example: owning a lake - encourages avoiding pollution to maintain its value.
- **Marginal analysis**: study of the costs / benefits of doing more or less of an activity.
 - **marginal benefit**: the gain from doing something
 - **marginal cost**: the cost from doing something

II. Resources are Scarce (cant always get what you want)

- **Limited income and time** → keeping people from having everything they ever wanted → make choices.
- **Resource**: anything that can be used to produce something else
- **factors of production**:
 - land (timber, water, minerals)
 - labor (effort of worker)
 - capital (machinery, tools, buildings)
 - entrepreneurship (risk taking, innovation)
- **Resource is scarce when**:
 - not enough of it available to satisfy the various way ppl want.
 - Example: limited supply of oil, coal.
- Individual choices determine how resources are used, some other decisions are better made at the community level.

III. Opportunity cost: The real cost of something is what you must give up to get it.

- **Opportunity cost**: value of what you must give up when you make particular choice. (ALL COST)
- **Type**: Monetary costs: direct financial cost.
 - Non monetary costs: Intangible cost; time, enjoyment, ...

IV. Microeconomics	versus	Macroeconomics (focus on) economic aggregate
• the study of how individuals, firm make decisions and how those decisions interact		• concerned with the overall ups and downs of the economy.
		• are economic measures that summarize data across different markets.

- V. **Positive versus Normative Economics** (2 main type analysis involves)
- **Positive economics**: Describe how the economic works (factual)
 - **Normative economics**: Prescribes how the economic should work (judgement)
 - **Policy Advice**: Economist use both types to guide decisions, showing which policies are better based on outcomes.

VI. When and why economist Disagree?

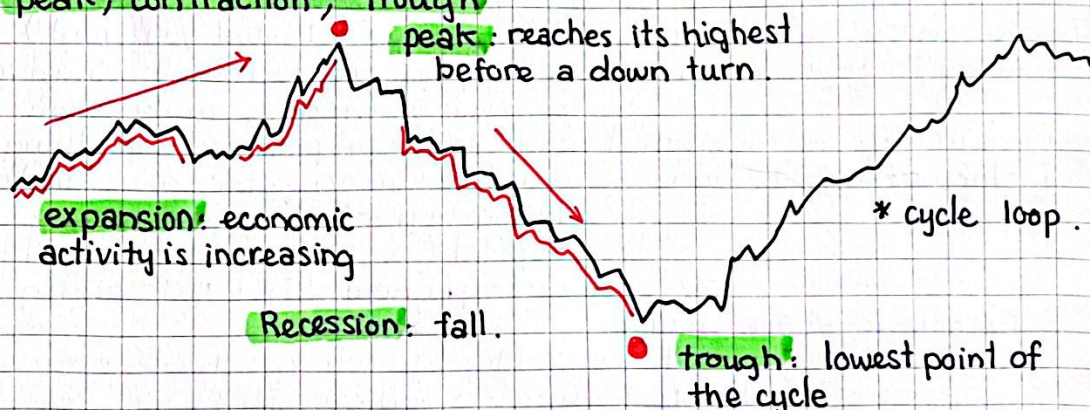
- Sources of disagreement:
 - **Different Values**: Different opinions on fairness and efficiency
 - **Methods**: Different ways of analyzing the same issue.
- **Resolution**: Evidence helps resolve disagreements, but new issues emerge

Real life example: The debate over VAT in the US illustrates this. Some economists support it (simplify taxes, increase savings) while other oppose it (harm low-income). The disagreement arises due to them valuing different aspect (fairness vs efficiency). Policy makers must weigh these conflicting views as new evidence emerge.

ECONOMICS 1.2 : INTRODUCTION TO MACROECONOMICS

I. The Business Cycle

- **Definition**: TBC represents natural down (fall) and rise of economic growth that occurs overtime. consists of four main phases: **expansion**, **peak**, **contraction**, **trough**



- **Recession**: Period of economic decline - falling output, rising unemployment.
- **Expansion**: phase where the economy is growing - increase output, employment
- **Depression**: An exceptionally deep and prolonged economic downturn

Real life example: The great recession (2007 - 2009): It was triggered by the collapse of the housing market and subsequent financial crisis. Caused significant declines in GDP, widespread job losses, suffer major losses.

II. Employment, Unemployment and the Business Cycle

- **Employment**: Number of people currently working for pay
- **Unemployment**: Number of people actively seeking work but not employed
- **Rate**: % of the labor force that is unemployed
 - Rise during recession - falls during expansions
- **Labor force**: sum of employment and unemployment.

III. Aggregate Output and the business cycle

- Business cycle affect both jobs & output



- Aggregate output: total production of goods / services for a specific periods (a year)
- falls during recession
- rises during expansions

IV. Inflation, Deflation, Price Stability

- Inflation**: A rise in overall prices that reduces the purchasing power of money.
- Deflation**: A decrease in overall prices that can discourage investment and deepen recessions.
- Wage vs living costs**: Even with increased wage, higher living costs due to inflation can neutralize wage gains.
- Price stability**: Economist aim to keep price changes minimal to avoid economic uncertainty and instability.

Real life example: US economy 1970s vs 2013:

- 1970s: Worker earned \$3.40 per hour, egg cost \$0.58
- 2013: Worker earned \$19.65 per hour, egg cost \$1.23

V. Economic Growth

- Definition**: Long-term increase in an economy's productive capacity, leading to a sustained rise in output per person
- Impact**: enables higher wages, better standard living over time
- Importance**: Essential for prosperity, in poorer nations, may conflict with short-term stabilization goals

VI. The use of Models in Economics

- What is models**: Simplified version of reality used to understand complex situations.
- Purpose**: help analyze economic scenarios by isolating variables
- Ceteris Paribus assumption**: All other things being equal or factor remain constant if no change.
- Type of models**: microeconomic & macroeconomic models.
- Also known as **other things equal**: allow economist to isolate and analyze the effects of a single change by holding other factors constant.

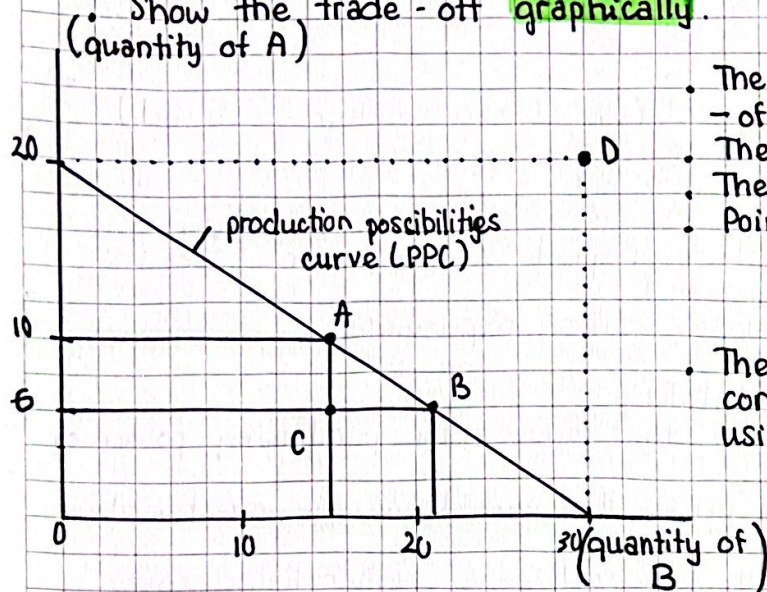
ECONOMICS 1.3: THE PRODUCTION POSSIBILITIES CURVE MODEL

I. Trade off: The production possibilities curve

- You make a trade-off when you give up something in order to have something else.
- We use PPC model to illustrates the trade-off.

KLONG

- Production possibilities curve**: illustrates the trade offs facing an economy that produces only **two goods**.
- Shows the **maximum** quantity of one good that can be produced for each possible quantity of the other good produced.
- Show the trade-off **graphically**.



- The following graph illustrates a trade-off between 2 goods: A & B.
- The area **inside** the curve = **feasible**
- The area **outside** the curve = **not feasible**
- Point **A**: feasible & productively efficient
- Point **B**: feasible & productively efficient
- Point **C**: feasible but not efficient
- Point **D**: not feasible
- The PPC line shows all the possible combinations of the two products using **ALL** the available resource.

II. Efficiency

- An economy is **efficiency** when there is **no way** to make anyone better off without making someone else **worse off**. (no **missed opportunity**)

Easy to understand:

- A classroom have 10 seats full
- 5 other students have to stand
- while there is one more empty room for the students
- ⇒ inefficient use of resources

h h h h h } full
h h h h h }

⦿ ⦿ ⦿ ⦿ ⦿
(no seats)

full

empty



- ⇒ If an economy producing at a point on its PPC = **productive efficiency**
- If it lies somewhere **not on the PPC line**, it is **missing the opportunity** to produce more goods (**inefficient**).

Real life example: When people in an economy are involuntarily unemployed then the economy is not productively efficient (it could produce more if those were employed) ⇒ changes in unemployment move economy closer or further away from PPC.

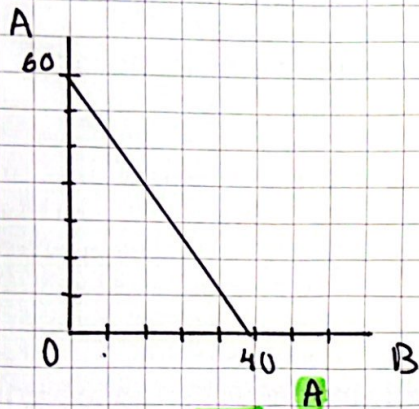
- An economy achieves **allocative efficiency** if it produces at the point along its PPC that makes **consumer satisfied**. (maximize)
- People may prefer one product over another

→ Efficiency for the economic requires: **productive efficiency**
allocative efficiency.

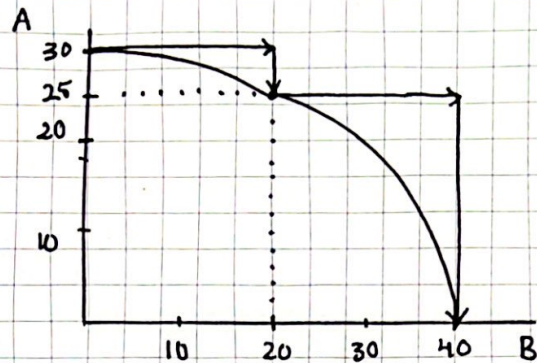
(produce **as much goods** along with **mix of goods** that people want)

III. Opportunity Cost

- PPC reminds us about opportunity cost.
- If A company moved from 1 place to another, they will produce 8 more (A) goods but 6 less (B) goods.
→ 8 extra (A) have an opportunity cost of 6 (B).
- Straight line PPC has a constant slope → constant opportunity cost.
- bowed-out PPC has an increasing opportunity cost.



- Producing 40 ~~units~~ requires giving up 60 ~~of~~ B.
- constant opportunity cost.

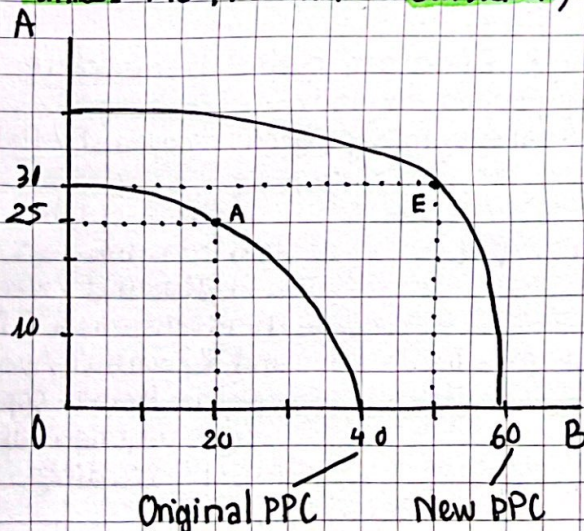


- Producing the first 20 B requires giving up 5 A.
- However producing the next 20 B requires giving up 25 more A. (higher opportunity cost)

- Opportunity cost are typically increasing. As more of a good is produced, its opportunity cost rises because well-suited inputs are used up, less adaptive / adaptable inputs must be used instead.

IV. Economic Growth

- (1.2) allows a sustained rise in aggregate output
- ⇒ economic growth means an expansion of the economy's production possibilities (can produce more of everything)
- Growth shown as an outward shift of the curve.
- Unless the PPC shifts outward, point beyond PPC are unattainable.



- Economic growth result in an outward shift of the production possibilities curve because production possibilities are expanded. The economy can now produce more of everything.
- Cause: increase in the resources used to produce goods: land, labor, capital, entrepreneurship.
- Cause: progress in technology.

- Post growth choices: Even if production shifts to fewer goods, the economy has grown if it can produce more overall.
- Inward Shift: A reduction in the economy size due to resource loss.
- Lesson: helps explain economic efficiency, opportunity cost and growth.

ECONOMICS 1.4: COMPARATIVE ADVANTAGE AND TRADE.

I. Gain from trade

- In a market, individuals **engage in trade**: **provide** goods /service and **receive** goods /service in return.
- Gains from trade**: people can get more of what they want through trade than just self-sufficient.
- Specialization**: each ~~people~~ person specialize in a task that he or she is good at.

Real life example: 18th century pin factory, each worker specialized in one of the many steps in pin making: drawing, cutting, pointing, packaging — ~ 48,000 pins a day. Without specialization they might each make fewer than 20 pins daily.

- Specialization** leads to people typically focus on the **production** of only one type of good /service (Huge advantage)
- Market** allows individuals can **access** the goods /services they **need**
- knowing they can **rely on others** for these **needs** allows them to **focus** on **their own specialties**.

II. Comparative Advantage and gains from Trade

- PPC may **illustrates gains from trade** - trade based on comparative advantage
- The following example may help you understand:

This is Tom and this is Hank



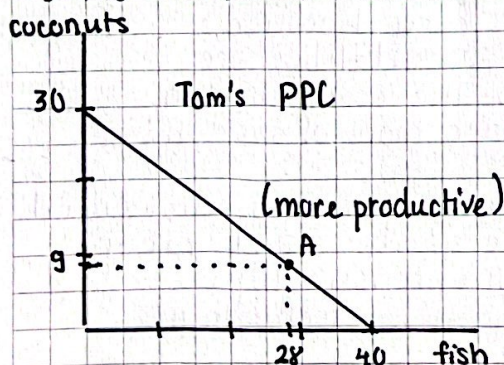
Name: Tom
Specialty: Fishing

Name: Hank
Specialty: Climbing

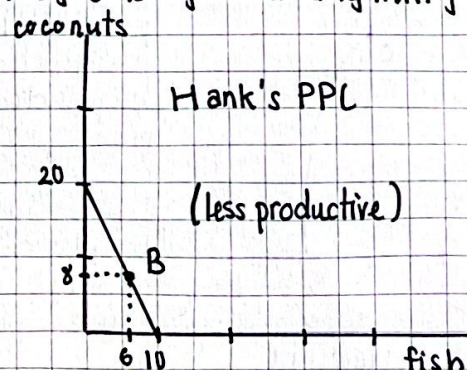
Back story: Tom being stranded on his island, Hank (as a castaway) is washed ashore. Each one of them specialized in one of the things (they do particularly well).

→ obviously there will be **potential gains** from trade between 2.

- What if neither of them is good at anything? There are **gains from trade** even ~~though~~ if one of them isn't especially good at anything.
- The PPC (linear) of both if they're not good at anything (goods: coconut / fish)



- Tom's slope of PPC is $-\frac{3}{4}$
- his opportunity cost of 1 fish is $\frac{3}{4}$ of a coconut.



- Hank slope of PPC is -2
- his opportunity cost of 1 fish is up to 2 coconut.

- In the 2 graphs, Tom consumed 28 fish and 9 coconut / week, Hank consumed 6 fish and 8 coconut / week
- Point A and B represent **consumption without both trading**.

We know the two castaway have different opportunity costs, deal is possible. This is how a deal works:



Since Tom specializes in the production of fish, he catch 40 per week, and give 10 to Hank



Hank specializes in the production of coconut, gathering 20 per week, give 10 to Tom.

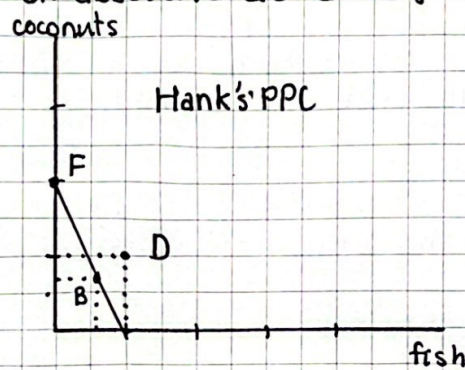
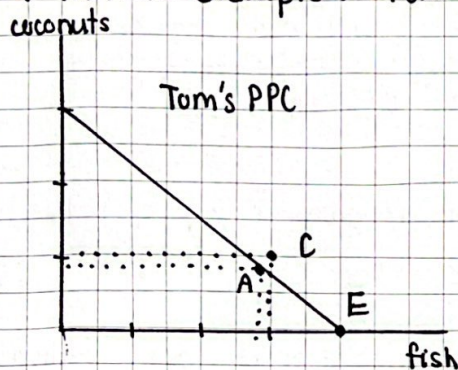
Without Trade		With trade		Gains from Trade
Production	Consumption	Production	Consumption	
Tom Fish: 28	28	40	30	+ 2
Coconuts: 9	9	0	10	+ 1
Hank Fish: 6	6	0	10	+ 4
Coconuts: 8	8	20	10	+ 2

⇒ An individual has a comparative advantage in producing a good / service IF the opportunity cost is lower than others.

in this example: Tom has a comparative advantage in catching fish

⇒ An individual has an absolute advantage in producing a good / service IF can make more with a given amount of time / resources.

in this example: Tom has an absolute advantage in both activities.



*: unlike point A, B before, point C, D represent consumption with trade

A, B: consumption without trade | C, D: consumption with trade.
E, F: production with trade.

III. Mutually Beneficial Terms of Trade

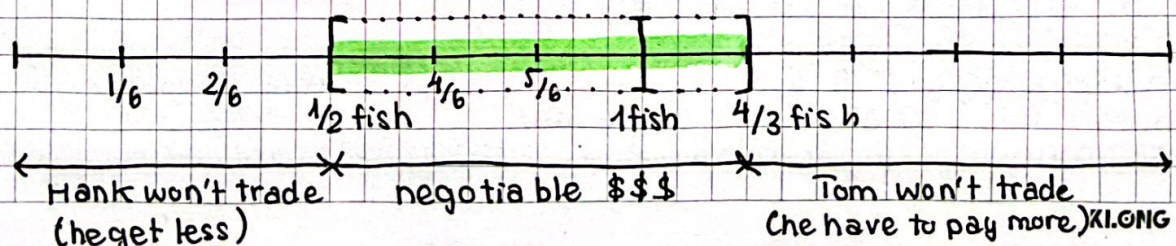
Terms of trade indicate the rate at which one good can be exchanged for another good.

If Tom and Hank trade 10 coconut for 10 fish → each coconut worth 1 fish

Tom's cost: $\frac{4}{3}$ fish per coconut, He won't trade if he has to pay more than $\frac{4}{3}$ fish for coconut. because he's better off without trading.

Hank's Cost: $\frac{1}{2}$ fish per coconut, He won't trade if he get less than $\frac{1}{2}$ fish for coconut.

⇒ Tom & Hank will both benefit if the price of coconuts falls between $\frac{1}{2}$ & $\frac{4}{3}$ fish.



- As long as people have different opportunity costs, everyone has a comparative advantage in something, and everyone has a comparative disadvantage in something → trade benefits.

IV. Comparative advantage & International Trade

- Internal trade:** Involves importing/exporting goods across borders.
 - Whether to embrace internal trade or focus on self-sufficiency.
 - For example:** US may have a comparative advantage in producing pork and Canada in Aircraft → trading allows both countries to consume at a point outside of their PPC.

ECONOMICS APPENDIX: GRAPHS IN ECONOMICS

I. Getting the picture:

- Visual presentations can make it much easier to understand verbal desc, numerical data or ideas.
- Learn how to interpret visual aids (how graphs are constructed, ...)

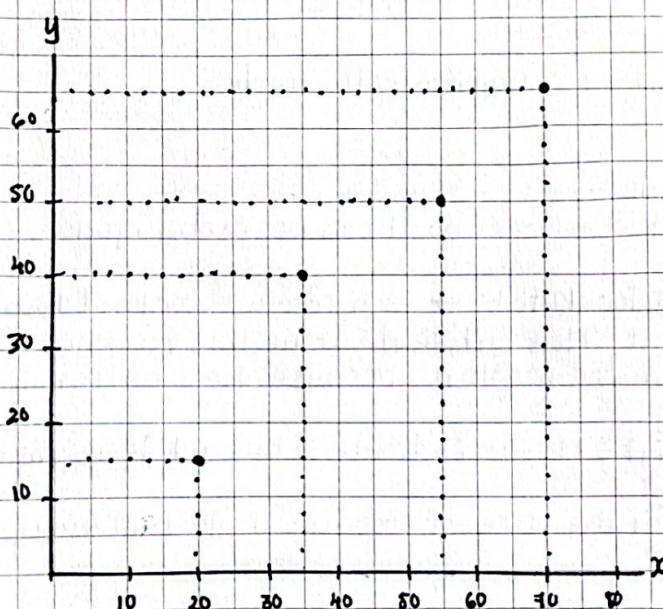
II. Graphs, Variables, & economic models.

- Reason to attend college: Bachelor's degree → higher paying jobs, from degree like MBA, law, ...
- Most graphs in economics depict the relationship between 2 variables.
- Variable:** a measure that can take on more than one variable's value.
- Most models describe the relationship between two variables.

III. How graphs work

- Most graphs in economics are based on a grid built around 2 perpendicular lines that show the values of two variables.

Two - Variable graphs



- In any 2 variable graph, one is called the x-var, one is y-var.
- The solid horizontal line: horizontal axis.
- The solid vertical line: vertical axis.
- The origin: point where everything = 0.
- Most graph like this represent a causal relationship, which the value taken by one variable directly influence or determines.
- The determining variable is called the independent variable.
- The variable it determines is called the dependent variable.
- By convention, we put independent variable on the horizontal axis, & vice versa.

- Curve on a graph:** A line on a graph is called a curve regardless of whether it is a straight or a curve line.
 - IF STRAIGHT:** linear relationship
 - IF CURVE:** nonlinear relationship

- When an increase in one variable is associated with an increase in the other variable.
→ positive relationship.
- When an increase in one variable is associated with a decrease in the other variable.
→ negative relationship.
- Point(s) that hits the horizontal axis — horizontal intercept
vertical axis — vertical intercept

IV. The slope of a curve

- measure how steep it is, how sensitive y-var is to a change in x-var
- The slope of a Linear Curve:

$$\frac{\text{Change in } y}{\text{Change in } x} = \frac{\Delta y}{\Delta x} = \text{slope}$$

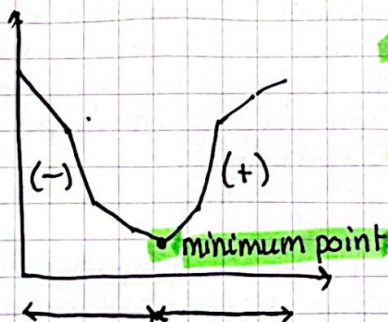
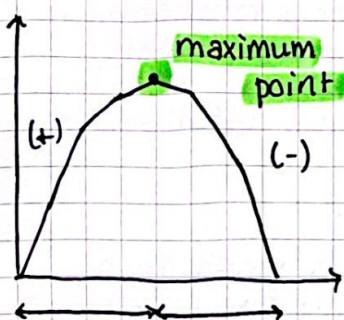
- Δ : delta, stands for "change in"
- when variable increase, $\Delta +$
- when variable decrease, $\Delta -$
- if slope going downward = negative
going upward = positive

- Due to straight line being steep equally at all points,
→ the slope of a straight line is the same at all point

- Horizontal curve: y variable never changes (constant)
slope will always be zero.
- Vertical curve: x variable never changes (constant)
slope will be an infinitely large number (∞)
- Both curve: 2 variables are unrelated (no effects)

V. The slope of a Nonlinear Curve

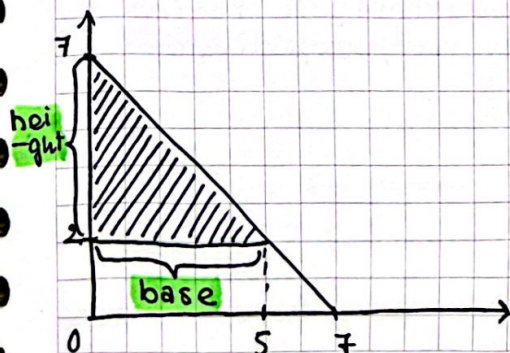
- Nonlinear curve is one along which the slope changes
- When calculate = we obtain different values for the slopes at diff point.
- Absolute value: is the value of that number without a minus,
for example $|-4| = 4$.
- Slope of a nonlinear may change from positive to negative or vice versa
- When change from (+) to (-): creates maximum point
(-) to (+): creates minimum point



maximum point: largest value of y (graph)

minimum point: lowest value of y (graph)

VI. Calculating the area Below or Above a curve



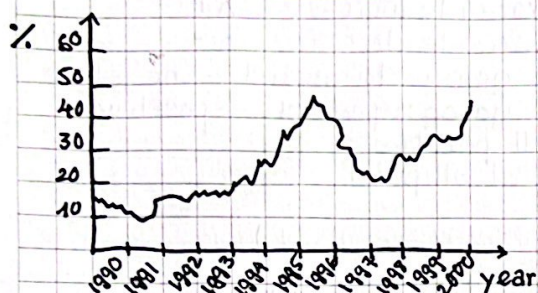
- Calculate the base of the triangle:
 $5 - 0 = 5$
- Calculate the height of the triangle:
 $7 - 2 = 5$
- Area = $5 \times 5 \times \frac{1}{2} = 12,5$

VII. Graphs that depict Numerical Information

- Used to summarize and display data.
- 4 types of numerical graphs:
 - time-series graphs
 - scatter diagrams
 - pie charts
 - bar graphs.
- Widely used to display real empirical data about different variables.
- Identify patterns or trends in the economy.

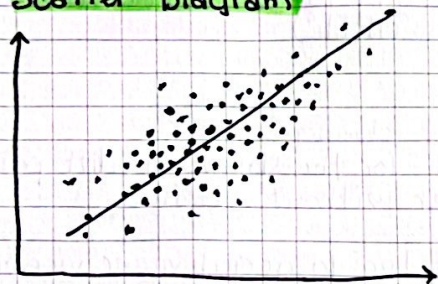
Time - Series graph :

- horizontal axis: successive dates
- vertical axis: values of a variable that occurred.



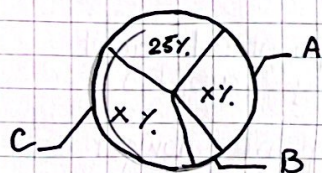
- the line connect datas gives a clear idea of the overall trend.

Scatter Diagram



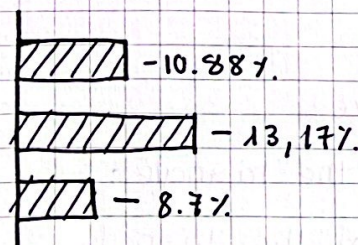
- Each point on a scatter diagram corresponds to an actual observation of the x variable and the y variable.
- A line is drawn ~~approx~~ approximates as close as possible to the center of the diagram.

Pie Chart :



- A pie chart shows the share of a total amount that is accounted for by various components, usually expressed in percentages.
- Each pie represent a part of the total ammount as a variable.

Bar graph :



- A bar chart graph measures a variable by using bars of various heights or lengths.
- visualizing economics problem solving and financial data comparison using the diagrams.
- Multiple Bar diagram: compare two or more variables (revenue, expenditure)

ECONOMICS: SUPPLY AND DEMAND; INTRO AND DEMAND.

I. Supply and demand: A model of a competitive Market

- **Competitive market**: a market in which there are many buyers and sellers of the same good / service.
- none of whom can influence the price at which the good is sold.
- When a market is competitive, its behavior is described by the supply and demand curve / model.
- Five keys of elements in the supply and demand model:
 1. Demand curve
 2. Supply Curve
 3. Market equilibrium
 4. factors that change supply and demand curve
 5. How market equilibrium change supply / demand curve.

II. The Demand Curve :

The amount of supply they wanted:

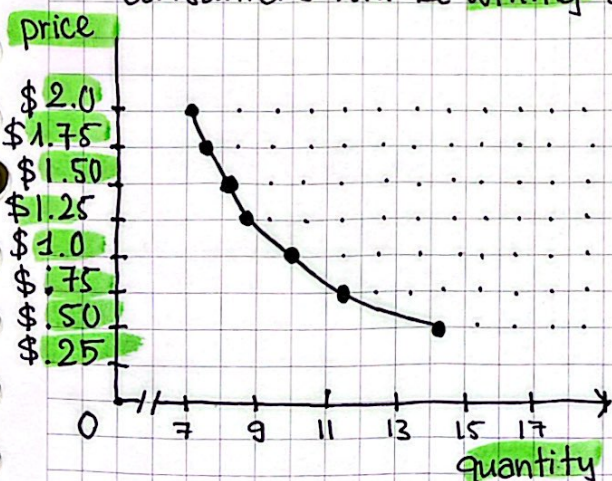


the price



- In general, the quantity of any item / supply / good / service that people want to buy depends on the price.
- The Higher the price, the less of the good / service people want to purchase.
- The lower the price, the more of the good / service people want to purchase.

- **Demand Schedule**: shows how much of a good or service consumers will be willing and able to buy at different prices.



price quantity

price	quantity
\$ 2.00	7.1
\$ 1.75	7.5
\$ 1.50	8.1
\$ 1.25	8.9
\$ 1.00	10.0
\$ 0.75	11.5
\$ 0.50	14.2

- the higher the price, the fewer they will want to buy.
- the lower the price, the more they will want to buy.

- The demand curve and schedule reflect the law of demand;
 - as price rises, the quantity demanded falls.

→ the curve is downward-sloping.

- **Demand Curve**: graphical representation of the demand schedule.
- **Law of demand**: A higher price for a good or service, all other things equal, leads to people to demand a smaller quantity of that good / service.

III. Shift of the demand Curve