Unit 1: Introduction to Economics

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Assessment Objectives

SL/HL Content: Learning Objectives	
AO2	Identify and explain the relationships illustrated in the production possibilities curve model PPC
AO2	Use the PPC model to explain opportunity cost, scarcity, choice, unemployment, efficiency, actual growth and growth in production possibilities
AO4	Draw a diagram to explain all of the above concepts in the PPC model
AO2	Distinguish between increasing versus constant opportunity cost in the PPC model
AO4	Draw a diagram to illustrate the difference between increasing and constant opportunity cost in the PPC model

Assessment Objectives

SL/HL Content: Learning Objectives	
AO2	Identify and explain the interdependent activities of decision-makers in the circular flow of income model: households, firms, the government, banks and the financial sectors, and the foreign sector
AO2	Explain the role of leakages and injections in the circular flow of income model
AO4	Draw a diagram to identify and explain the relationships illustrated in the circular flow of income model including leakages and injections

Economic models

Models are simplified representations of something in the real world.

- They represent only the important aspects of the real world being investigated, ignoring unnecessary details.
- In order to focus on the relationship between two variables, economists must make assumptions to simplify the real world.
- **Ceteris paribus** is the assumption that all other things are held equal, or constant, except those under investigation
- This is used in economic models where we want to see the effect on one variable of a second variable changing.
- Sometimes the assumptions made in these models may reduce the models usefulness and validity.
- Economic models rely on the assumption that humans are rational with perfect foresight and will attempt to maximize their utility

Production possibilities curve (PPC) model

The **production possibilities curve (PPC) model** is used to demonstrate how an economy and the key decision-makers within an economy deal with the scarcity of resources.

- PPC model is a positive economic tool that allows us to analyse the opportunity costs and trade-offs that individuals, firms and nations face when confronted with scarcity.
- The model will also be used to further analyse opportunity costs and efficiency.
- The production possibilities curve represents all combinations of the maximum amount of two goods that can produced by an economy, given its resources and technology, when there is full employment of resources and efficiency in production.
- All points on the curve are known as production possibilities.

Production possibilities curve (PPC) model: Assumption(s)

In order for the economy to produce the greatest possible output, in other words somewhere on the PPC, two conditions must be met:

1. **All resources must be fully employed**
   - This means that all resources are fully used.
   - If there was unemployment of some resources, in which case they would be sitting unused, the economy would not be producing the maximum it can produce.
2. **All resources must be used efficiently**
   - Efficiency refers to resources being used in the best possible way to avoid waste.
   - Efficiency in production means that output is produced by the use of the fewest possible resources or at the lowest possible cost.

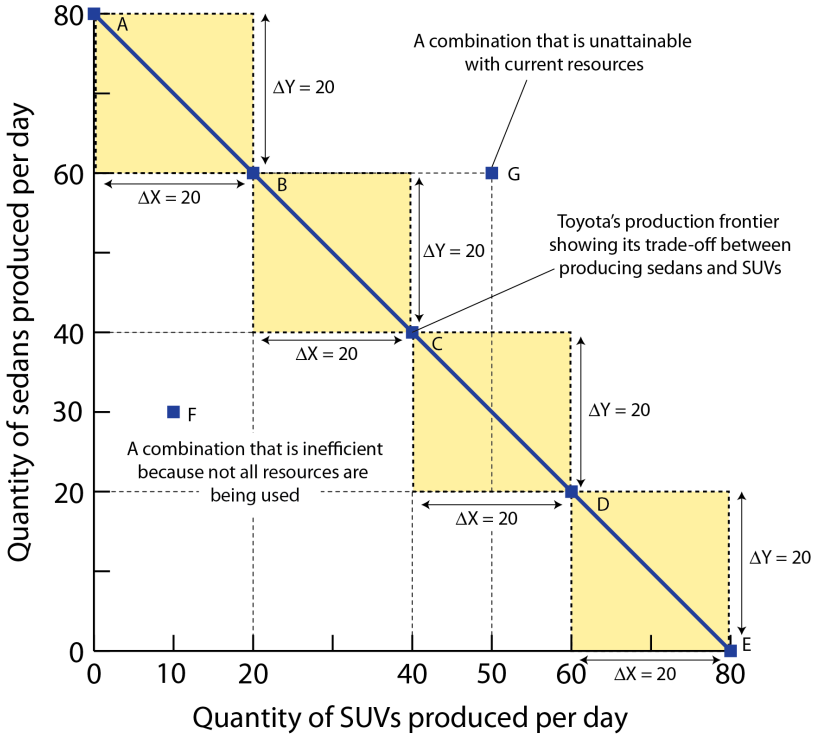
Production possibilities curve (PPC) model: Example 1

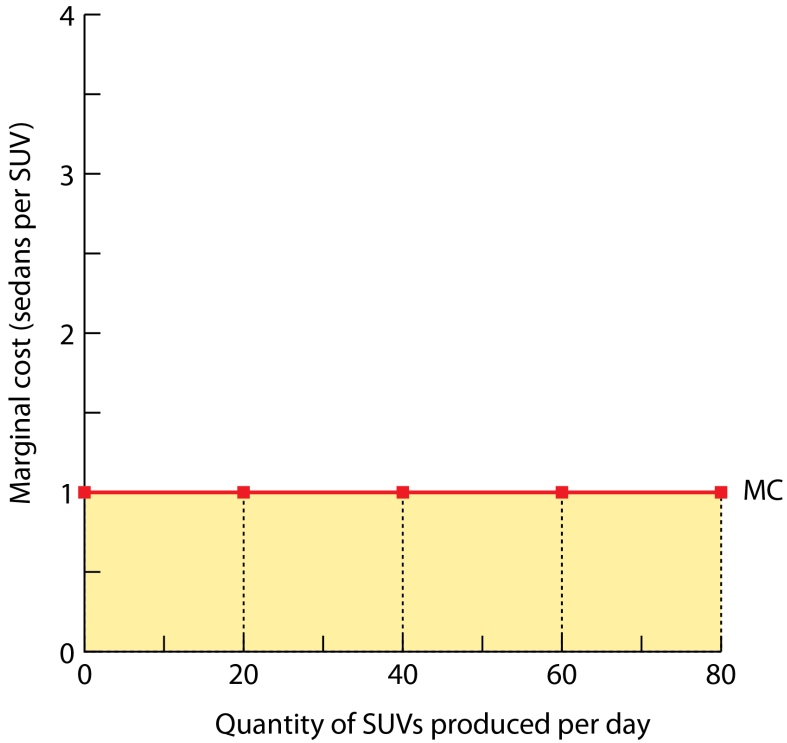
As an example we'll analyse the trade-off that Toyota Canada faces when producing two vehicles.

- Toyota has the choice of producing either sedans or sports utility vehicles (SUVs).
- We will make the assumption of constant opportunity costs.

Toyota's Production Possibilities at its Cambridge Plant		
Choice	Sedans Produced	SUVs Produced
A	80	0
B	60	20
C	40	40
D	20	60
E	0	80

Production possibilities curve (PPC) model: Example 1





Key takeaways

1. The economy cannot produce outside its PPC.
2. The economy must make a choice about what particular combination of goods will be produced. Choices involve opportunity cost.

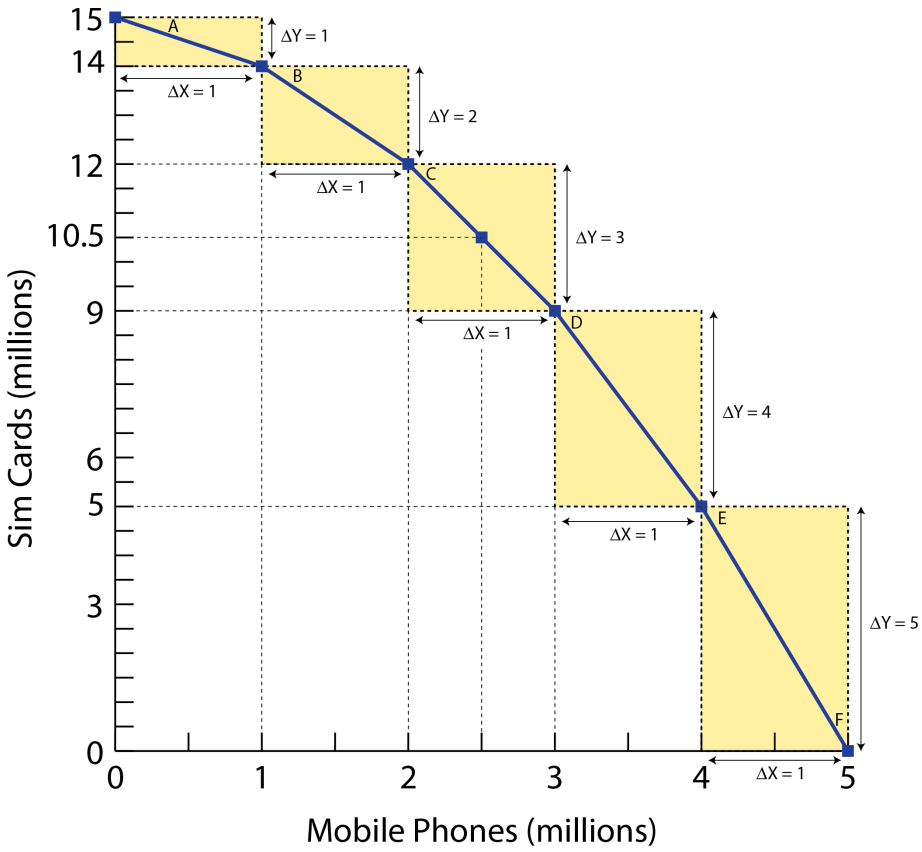
Production possibilities curve (PPC) model: Example 2

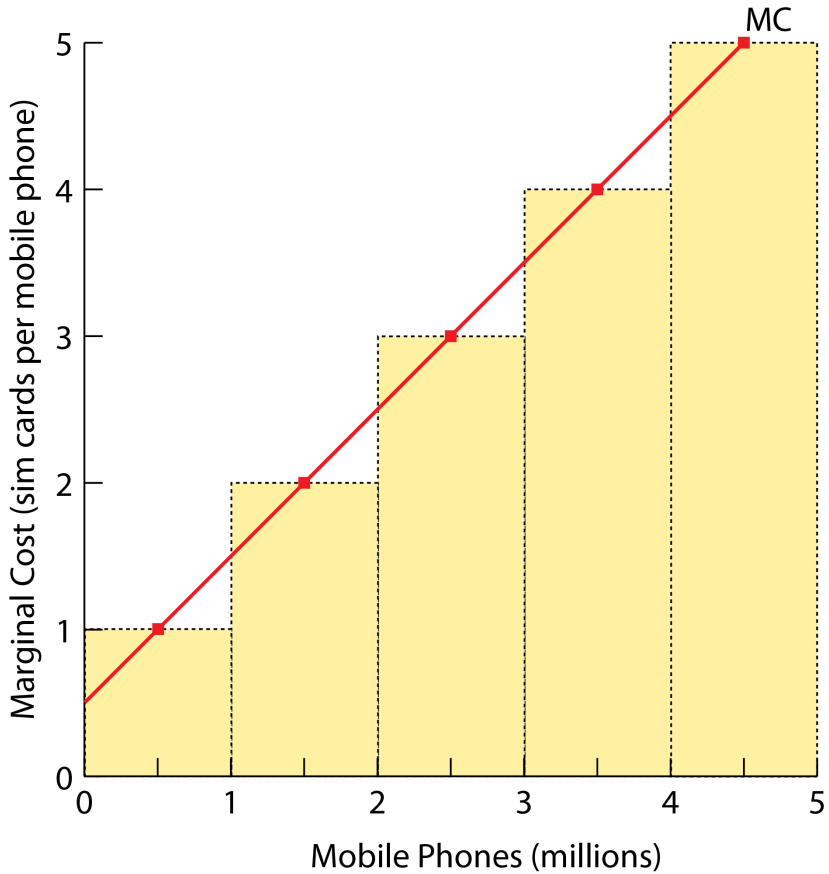
Let's now look at the trade-off a mobile phone company, such as Rogers, faces when producing its products.

- Suppose the firm has the choice of producing either sim cards or mobile phones.
- We will now make the assumption of increasing opportunity costs.

Rogers Production Possibilities		
Choice	Sim cards produced	Mobile phones produced
A	15	0
B	14	1
C	12	2
D	9	3
E	5	4
F	0	5

Production possibilities curve (PPC) model: Example 2





- The concave or bowed out shape of the PPF denotes increasing opportunity cost. The steeper the slope of the PPF, the higher the opportunity cost.

Production possibilities curve (PPC) model: Efficiency

Producing any combination on the PPF indicates productive efficiency.

- Productive efficiency occurs when production takes place at the lowest possible cost.
- This means the firm is fully employing all resources and achieving maximum production at the lowest cost.

Question How do we choose among the points on the PPF? How do we know which point is best?

- Producing the very best combination on the PPF indicates allocative efficiency. This occurs when firms produce the particular combination of goods and services that consumers most prefer.
- That is, resources have been allocated in the most optimal manner such that the marginal benefit (MB) of production exactly equals the marginal cost (MC).

Production possibilities curve (PPC) model: Efficiency

The marginal cost (MC) of a good is the opportunity cost of producing one more unit of it.

- We calculate marginal cost from the slope of the PPF.

The marginal benefit (MB) from a good or service is the benefit received from consuming one more unit of it.

- We measure marginal benefit by the most people are willing to pay for an additional unit of it.
- The benefit is subjective and depends on peoples preferences.
- Preferences describe what people like and want and the production possibilities describe the limit or constraints on what is feasible.
- The marginal benefit curve is unrelated to the PPF and cannot be derived from it. The marginal benefit decreases with the quantity consumed because of the preference for variety.

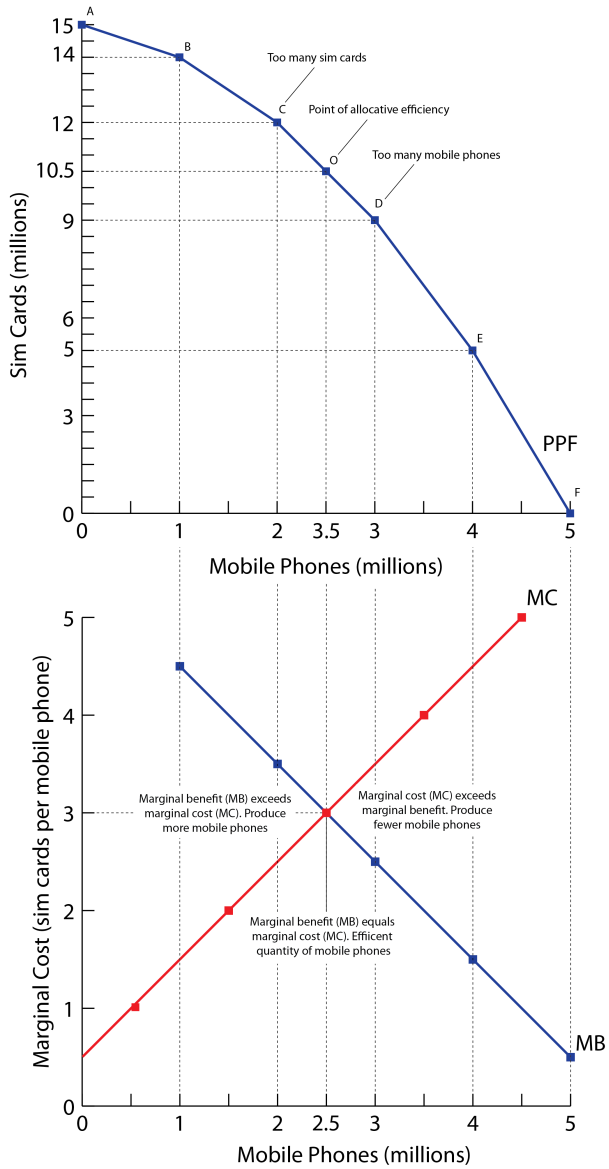
Production possibilities curve (PPC) model: Efficiency

Allocative efficiency occurs where the marginal cost (MC) equals the marginal benefit.

Mobile phones	Sim cards	Marginal cost	Marginal benefit
0.5	14.5	1	5
1.5	13	2	4
2.5	10.5	3	3
3.5	7	4	2
4.5	2.5	5	1

The equilibrium occurs when 2.5 mobile phones and 10.5 sim cards are produced.

Production possibilities curve (PPC) model: Efficiency



Marginal analysis

Economics is concerned with the marginal or "extra" benefits (MB) and marginal or "extra" costs (MC) of any course of action.

- If MB $>$ MC then we should do more of it because "it's worth it"
- If MB $<$ MC then we should do less of it because "it's not worth it"

Production possibilities curve (PPC) model: Real world

In the real world, no economy is ever likely to produce on its PPC.

- An economy's actual output or the quantity of output actually produced, is always at a point inside the PPF, because in the real world all economies have some unemployment of resources and some inefficiency in production.
- The greater the unemployment or the inefficiency, the further away the point is from the PPC.

Production possibilities curve model: Economic Growth

Economic growth refers to increases in the quantity of output, usually measured in terms of gross domestic product (GDP), produced in an economy over time.

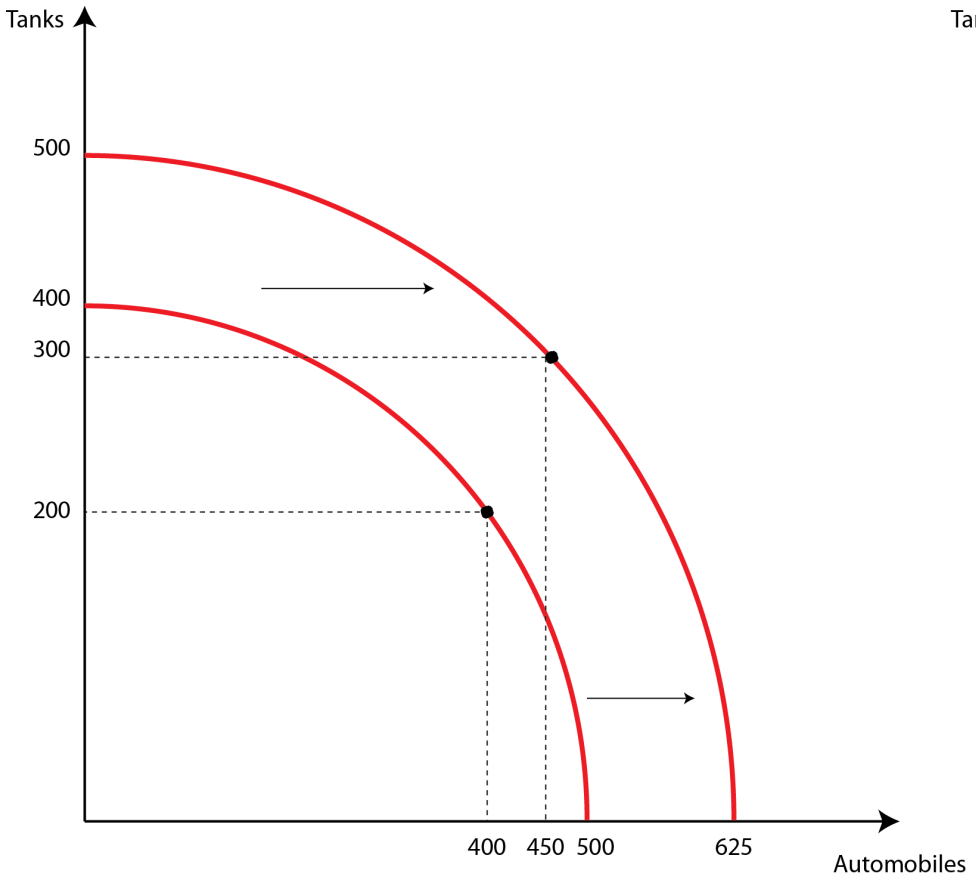
Actual growth involves movement from one point inside the PPC to another point closer to the PPC.

- It is caused by reduction in unemployment and increases in efficiency in production.

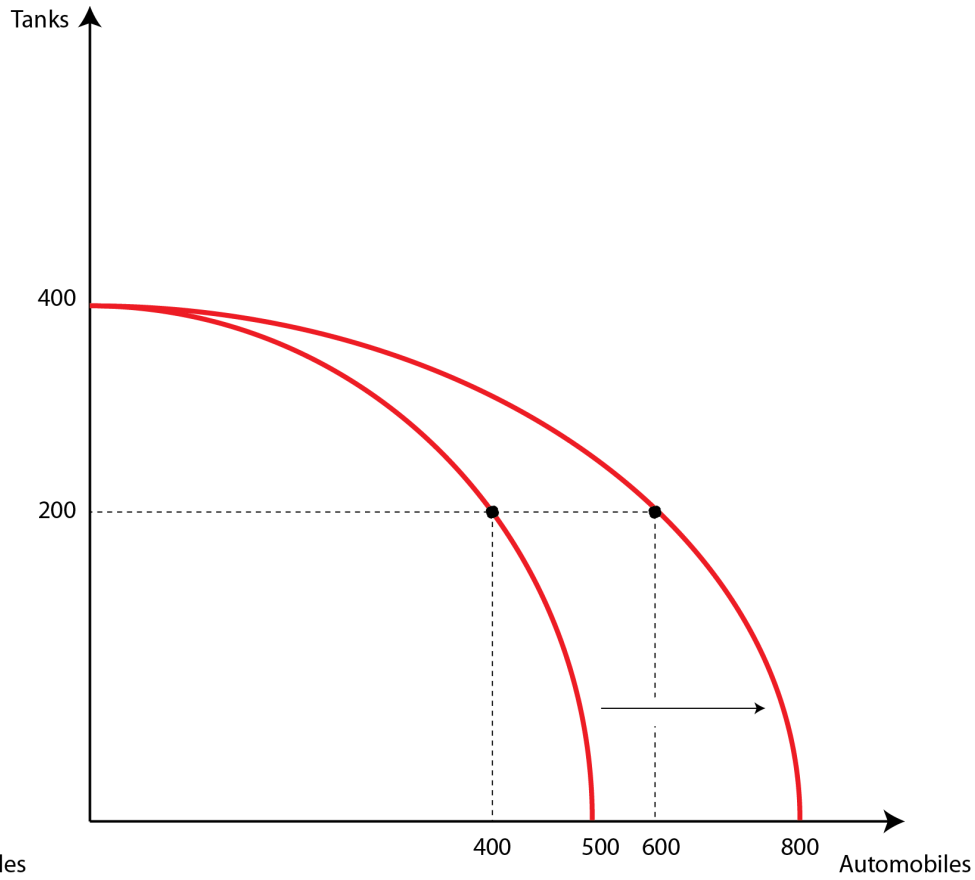
Growth in production possibilities involves an outward shift of the PPC

- It is caused by increases in the quantity of resources, improvements in the quality of resources and technological improvements.

Production possibilities curve model: Changes



(a) Shifting out the production possibilities frontier



(b) Technological change in the automobile industry

Test your understanding

Question: Us the production possibilities curve model and diagrams to show how the following can result in actual growth or growth (or decrease) in production possibilities

1. a discovery of new oil reserves
2. firms hire more workers
3. a vaccine for contagious diseases is invented
4. firms improve how they manufacture and lower the costs of production
5. the widespread use of a new technology
6. a violent conflict destroys a portion of a country's factories, machines and road system
7. large cuts in government spending on education and health care lower levels of education and health in a population

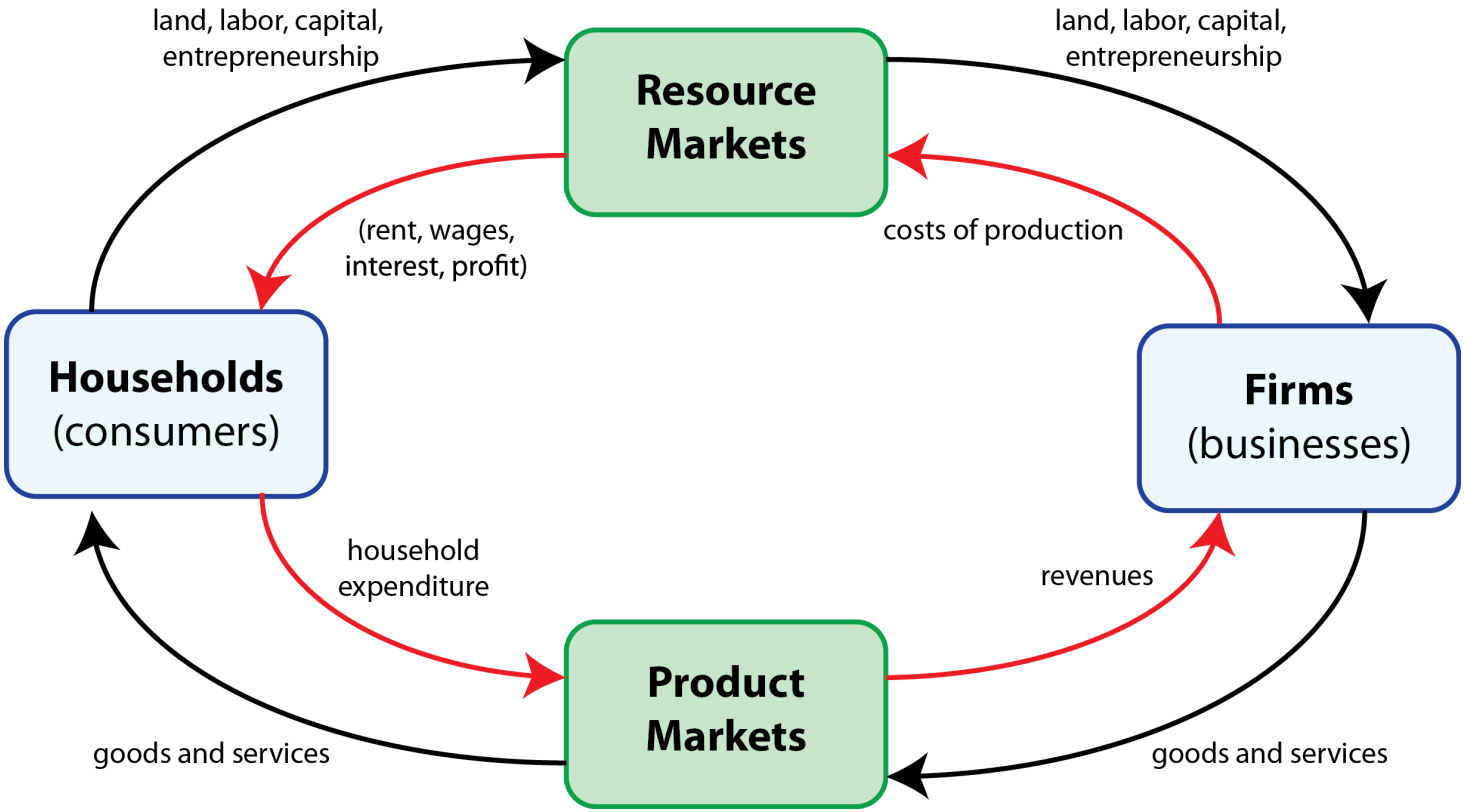
Markets

A **market** is any arrangement that individuals have for exchanging goods or services with one another.

- A market is a meeting place of buyers and sellers
- Markets can be local, national or international
- Markets are characterized by their competitive structure. The degree of competition depends upon:
  - The number of buyers and sellers in the market
  - The type of product
  - Barriers to entry in the market

Circular flow model: Microeconomics

The **Circular flow of income** shows that in any given time period, the value of any output produced in an economy is equal to the total income generated in producing that output, which is equal to the expenditure made to purchase that output.



Circular flow model: Macroeconomics

In the circular flow of income model if injections are larger than leakages the size of the flow increases; if leakages are larger than injections the size of the flow shrinks.

- **Leakages** are diversions of money outside of the circular flow
- **Injections** are insertions of money into the circular flow