BT244: Microeconomics Notes

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1 Principles of Economics

Economics is the study of how individuals make decision: how we produce, distribute, consume goods and services in a society where resources are scarce. The principles of economics are as follows:

- Choices are necessary because resources are scarce.
  - A ***resource*** is anything that can be used to produce something else.
  - A resource is ***scarce*** when there is not enough of the resource available to satisfy all the various ways a society wants to use it.
- The true cost of something is its ***opporunity cost*** (def: what you must give up in order to get something).
- *How much* is a decision at the margin (for each additional unit).
  - A ***marginal decision*** is a decision made at the margins of an acitvity about whether to do a bit more or a bit less of that activity
  - ***Marginal analysis*** is the study of margin decisions.
- People respond to incentives (def: anything that offers rewards to people who change their behavior), exploiting opportunities to make themselves better off.

Trade allows us to consume more than we otherwise could; gains from trade arise from specialization. ***Specialization*** is the situation in which each person specializes in the task that he or she is good at performing. The principles of the interaction of individual choices are as follows:

1. There are gains from trade.
2. Markets (def: a place where a good or service is exchanged) move toward equilibrium (def: an economic situation in which no individual would be better off doing something different)
3. Resources should be used efficiently to achieve society's goals. Economy is efficient if it takes all opportunities to make some people better off without making other people worse off.
4. Markets usually lead to efficiency (def: all the opporunities to make people better off have been exploited), but when they don't, government intervention can improve society's welfare.

2 Economic Models: Trade-offs and Trade

A ***model*** is a simplified representation of a real situation that is used to better understand real-life situations. By keeping our models simple, we can focus on the change of one variable, assuming everything else stays the same; this is the *other things equal* assumption (ceteris paribus).

2.1 The Circular-Flow Diagram

The ***circular-flow diagram*** represents the transactions in an economy by flows around a circle.

Definition 2.1 A ***household*** is a person or a group of poeple that share their income

Definition 2.2 A ***firm*** is an organization that produces goods and services for sale.

Firms sells goods and services that they produce to households in **markets for goods and services**. Firms buy the resources they need to produce goods and services in **factor markets**. Main factors of production are land, labor, physical capital, and human capital. An economy's **income distribution** is the way in which total income is divided among the owners of the various factors of production.

2.2 The Production Possibilities Frontier

The ***production possibilities frontier (PPF)*** is a diagram that shows the combinations of two goods that are possible for a society to produce at full employment.

An economy is **efficient** if there are no missed opportunities. An economy is **efficient in production** if there are no missed opportunities in production. It is efficient in production if it could not produce more of any one good without producing less of something else—if it's on the PPF. An economy is inefficient in production if it could produce more of some things without producing less of others. The economy is **efficient in allocation** if it allocates its resources so that consumers are as well of as possible. Efficiency requires both efficiency in production and efficiency in allocation.
Economic growth means an expansion of the economy's production possibilities. Economic growth can be caused by:

1. **An increase in factors of production**: resources used to produce goods and services (land, labor, physical capital, and human capital).
2. **Better technology**: the technical means for producing goods and services.

2.3 Positive versus Normative Economics

Positive economics is the branch of economics analysis that *describes* the way the economy actually works. ***Normaltive economics*** make *prescriptions* about the way the economy should work. A ***forecast*** is a simple prediction of the future.

3 Supply and Demand

Supply and demand analysis helps us understand factors impacting goods' prices and quantity in the economy.

3.1 Competitive Markets

A ***compteititve market*** has **many** buyers and sellers of the **same** good or service, and none of whom can influence the price. Most markets are not perfectly competetive. The ***supply and demand model*** is a model of how a competetive market behaves.

3.2 Demand

Demand represents the behavior of buyers. The ***demand curve*** is a plot that shows the quantity demanded of a good at each price level, assuming all other determinants of demand constant. A ***demand schedule*** is a table showing how much of a good or service consumers will want to buy at different prices. The ***quantity demanded*** is the quantity that buyers are willing (and able) to purchase at a particular price. The ***law of demand*** states that a higher price for goods leads people to demand smaller quantity of that good (other things equal).

Remark Any change in price (ΔP) will result in a movement along the demand curve (change in quantity demanded)

Remark Any change in consumer income, consumer taste, or consumer preference will result in a movement of the entire demand curve (change in demand)

A **rightward** shift of the demand curve means an increase in demand. A **leftward** shift of the demand curve means a decrease in demand. There are five factors that **shift the demand curve**:

1. Changes in the prices of related goods or services
2. Changes in income
3. Changes in tastes
4. Changes in expectations
5. Changes in the number of consumers

Two goods are ***subtitutes*** if a decrease in the price of one leads to a decrease in demand for the other (or vice versa); *substitutes usually serve a similar function.* Two goods are ***complements*** if a decrease in the price of one good leads to an increase in the demand for the other (or vice versa); *complements are usually consumed together.*

The effect of changes in income on demand depends on the nature of the good in question:

- A ***normal good***: demand increases when income increases.
- An ***inferior good***: demand decreases when income increases.

If consumers have a choice about the timing of a purchase, then they buy according to **expectations**. Buyers adjust current spending in anticipation of the direction of future prices in order to obtain the lowest possible price. As the population of an economy changes, the number of buyers of a particular good also changes, thereby changing its demand.
The ***market demand curve*** is the horizontal sum of the individual demand curves of all consumers.

3.3 Supply

Supply represents the behavior of sellers. A ***supply schedule*** shows how much of a good or service would be supplied at different prices. A ***supply curve*** shows the quantity supplied at various prices. The ***quantity supplied*** is the quantity that producers are willing and able to sell at a particular price.

A **rightward** shift of the supply curve means an increase in supply. A **leftward** shift of the supply curve means a decrease in supply. Some factors that shif the supply curve are:

1. input prices
2. the prices of related goods or services
3. technology
4. expectations
5. the number of producers

An increase in the price of an input makes production more costly for sellers, and thus supply decreases. A fall in the price of an input makes production less costly for sellers, and thus supply increases.

Inputs used in production have *opportunity costs*. Sellers will choose to use inputs whose profit is the higest...

- sellers will supply less of a good if its profitability falls
- there are substitutes and complements in production processes

New, better technology, enables producers to spend less on inputs, yet still produce the same amount of output: suplly increases. The expectation of a higher price for a good in the future decreases current supply of the good—if sellers can store the good. Sellers will adjust their current offerings in anticipation of the direction of future prices in order to obtain the highest possible price. As producers enter and exit the market, the overall supply changes:

- *Entry* implies more sellers in the market, increasing supply
- *Exit* implies fewer sellers in the market, decreasing supply.

On the supply side, firms have an incentive to charge the highest price possible. On the demand side, buyers have an incentive to search out the lowest price for the good. In a competetive market with many buyers and sellers, this will lead to one equilibrium price for the good. When $Q_S = Q_d$ at a certain price, the market is in **equilibrium**. That is, the amount consumers would purchase at this price is matched exactly by the amount producers wish to sell. The price at which this takes place is the ***equilibrium price***, also referred to as the market-clearing price. The quantity of the good or service bought and sold at that price is the ***equilibrium quantity***.

There is a ***surplus*** of a good when the quantity supplied exceeds the quantity demanded. Surplusses occur when the price is above the equilibrium level. **Surpluses** do not last: sellers will reduce price so they can move goods off the shelves.

There is a ***shortage*** when the quantity demanded exceeds the quantity supplied. Shortages occur when the price is below its equilibrium level. **Shortages** do not last: sellers will realize they can charge higher prices.

An increase in demand leads to a movement along the supply curve to a higher equilibrium price and higher equilibrium quantity. An increase in supply leads to a movement along the demand curve to a lower equilibrium price and higher equilibrium quantity.

Simultaneous shifts in demand and supply can lead to ambigous changes to the quantity and price...

- **Supply increases** and **Demand increases**: Quantity increases, but price change is ambiguous
- **Supply increases** and **Demand decreases**: Price decreases, but quantity change is ambiguous
- **Supply decreases** and **Demand increases**: Price increases, but quantity change is ambiguous
- **Supply decreases** and **Demand decreases**: Quantity decreases, but price change is ambiguous