MBHS Economics Club

Basic Economics Notes

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Definitions

Resources — Stuff
Scarcity — The state in which the needs or wants of a society exceed available resources
Economics — The study of scarcity and the distribution of scarce resources
Macroeconomics — The study of the economy on a regional, national, or international scale
Microeconomics — The study of how individuals and firms manage resources
Utility — The satisfaction or usefulness that a certain commodity gives (e.g. the enjoyment from a video game, the usefulness of a hammer for making things, the security provided by a safe)
Marginal — Additional; difference between two values; (delta; U_n - U_0 in the case of utility)

Accepted Assumptions

1. All resources are limited
   The first assumption tells us that the amount any resource (money, cookies, friends, time, etc.) is less than the demand for the resource. This is pretty straightforward, with obvious exceptions like trash.
2. Every choice has a cost
   We also assume that humans have to make choices regarding what resources they get, because they can't all have everything. A corollary of these two axioms is that every choice has a cost, you can't choose all options.
3. Rational humans ("*homo economicus*")
   This is where you might begin to disagree with the assumptions of neoclassical (naïve) economics. We assume that all humans will act with almost complete knowledge and absolute mastery of logic. We call humans who do act this way (jokingly) homo economicus. Admittedly, most humans don't act like this, but it makes things ***a lot*** *easier and is relatively accurate.*
4. Individuals try to maximize utility
   When we say humans act rationally, we need to clarify a bit here. It's entirely 'rational' to kill people as efficiently as possible if that's the metric you are trying to optimize. To make things more reasonable and realistic, we assume that humans try to maximize utility, and firms try to maximize profits. Also, have a meme:

Production Possibilities Curve

- A graph showing the relationship between the number of two given commodities that can be produced simultaneously; signified the location of a point on the graph

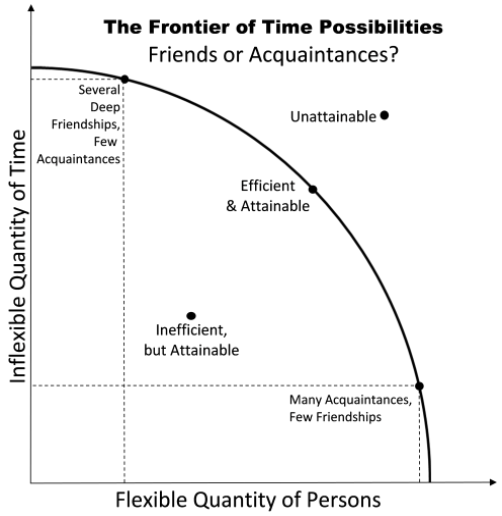


Fig 1.0: Good stuff here

  - Anything on the curve is **attainable** and **efficient** — the maximum number of both commodities is produced with the available resources
  - Anything inside the curve is **inefficient**, but **attainable** — there are enough resources, but not enough of each commodity is produced; the unused resources are therefore wasted
  - Anything outside the curve is **unattainable** — there's simply no way to produce that many of either commodity with the available resources
- Ways of shifting it:

    - Technology — New technology makes it easier to produce more of the commodity, at a lower cost (e.g. Facebook is developed, allowing for friends to be mass-produced)
    - Population — More workers = more stuff produced; fewer workers = less stuff produced
    - Resource availability — More resources = more stuff produced, fewer resources = less stuff produced
    - Trade — We can now produce less of one good, allowing for more of the other (i.e. we can import acquaintances from our friends, allowing us to make more friends)
- Trade - Per Unit Opportunity Cost — For other places, it might be easier to make a certain good as opposed to the other, as well as perceived marginal utility
    - e.g. it's easier for Russia to produce AK-47's than grain, which they can easily get from Ukraine, which gets AK-47's in exchange

Demand

- The concept of Demand is defined by the following law: *"All other things being equal, the greater the price of a commodity, the lower the quantity demanded, as people are more reluctant to buy it. In other words, price is inversely related to quantity demanded"*
- Thus, we say that Demand is a function of the price of a commodity that outputs a Quantity Demanded, or Q_d. This is an important distinction, as some people will say that demand will rise if the price is lowered; this is false, as what is actually happening is that the quantity Demanded outputted by the Demand function is rising due to a change in Price. Demand only actually changes through shifts.
- Reasons the function would be shifted:
    - Change in consumer preferences — people prefer orange juice to milk, so the demand for orange juice increases, and the demand for milk decreases
    - Increase in the availability of substitutes — there's more orange juice, so people buy more of it, and therefore less of milk
    - Change in income of consumers — people have less or more money with which to buy jewelry and there's a corresponding increase in the demand
    - Change in the number and composition of consumers (think baby boomers) — there are more people, so the demand for goods generally increases
    - Expectations — If you expect prices to fall, you will wait to buy until they have (e.g. if you expect the price of milk to be lower next week, you will wait until next week to buy milk)

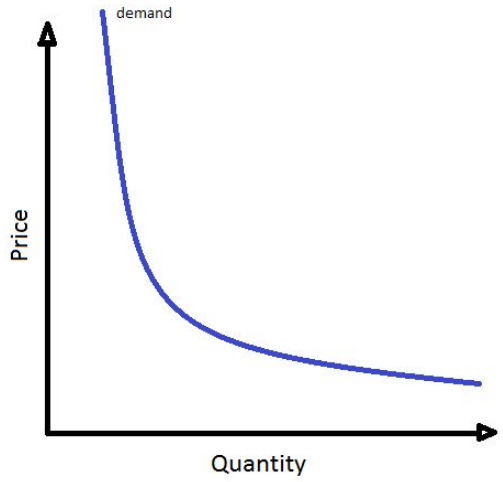


Fig 1.1: Siddharth Taneja's MS Paint skills

Supply

- The concept of Supply is defined by the following law: "*All other things being equal, the greater the price of a commodity, the greater the quantity produced, as producers are more willing to make it. In other words, the price is directly related to the quantity supplied.*"
- Thus, supply is a function of the price of any commodity, and this function outputs a certain quantity supplied. Like with demand, quantity supplied is a value, and supply is the function that returns this value.
- Reasons the function would be shifted:
  - Technology — New technology makes it easier to produce more of the commodity, at a lower cost (e.g. the printing press is invented, allowing for books to be mass-produced)
  - A change in the price/availability of component resource — Oil is discovered in U.S. waters in the Gulf of Mexico, increasing the supply of oil
  - More groups producing that commodity — Apple isn't the only company producing smartphones now, Samsung is, too
  - Subsidies — the U.S. government subsidizes corn farmers, allowing for more corn to be produced
  - Expectations — if you predict that nobody will want your stuff, you won't produce a lot of it

Note: Change in price of component resources, technology, and substities are often categorized as 'changing production prices'.

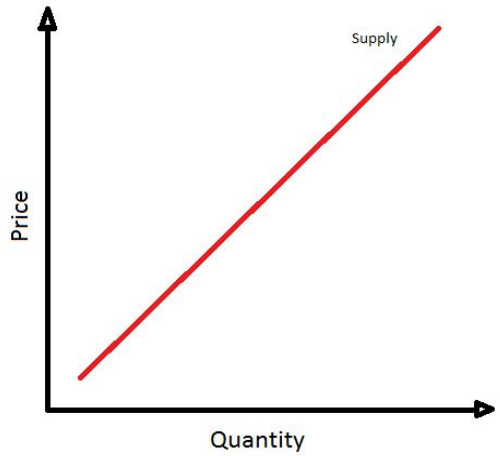


Fig. 1.2: Siddharth Taneja's increasing laziness over time in drawing graphs in MS Paint

Decreasing Marginal Utility

- Decreasing marginal utility is the concept that the increase in utility provided by acquiring an additional unit of a resource decreases as the number of units already obtained increases
- For example, as you consume more of something, you're less and less satisfied by it (e.g.
- This is helpful in explaining the shape of the supply and demand curves, as seen in the following image, and becomes much more interesting and rigorous with calculus.

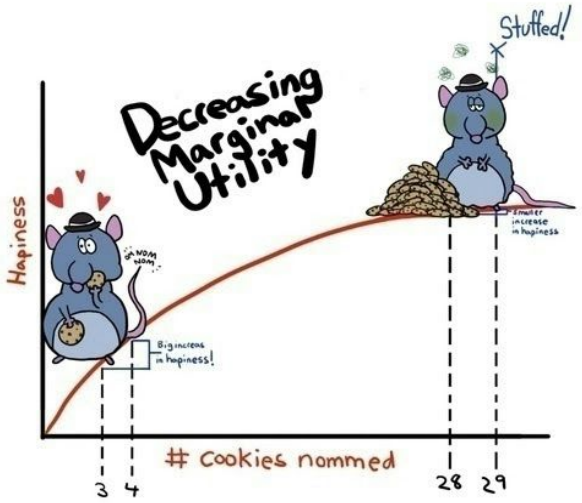
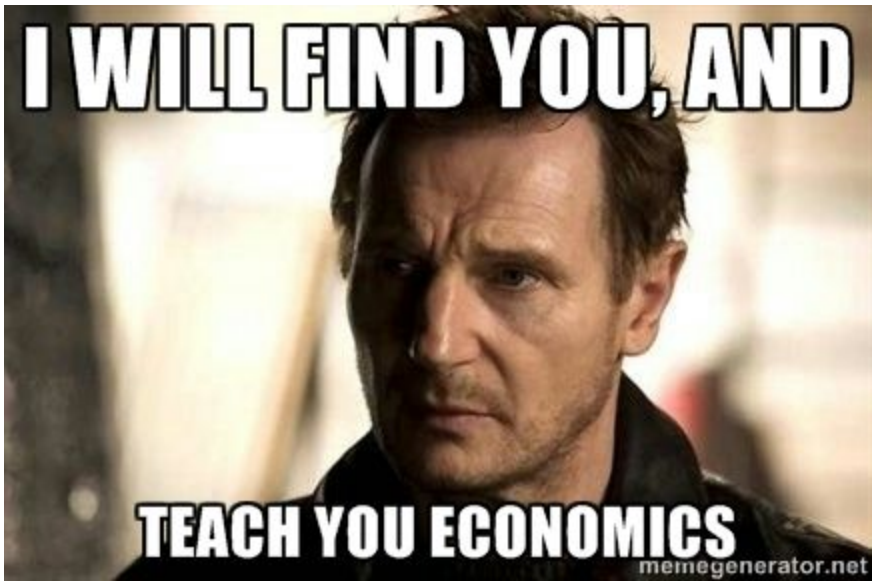


Fig 1.3: This was actually in an economics textbook

We had some extra whitespace due to formatting, so here's another meme:



Supply and Demand Relationships

- Equilibrium is the state when quantity supplied and quantity demanded are equal
- When quantity supplied exceeds quantity demanded, there is a surplus. When quantity demanded exceeded quantity supplied, there is a shortage.
- Systems naturally tend toward equilibrium, and when a shift occurs in either the demand or supply, systems will react by adjusting to a new equilibrium over time.
    - Change in quantity demanded or supplied doesn't lead to instant changes in price
- Price floors are only make sense if they are above equilibrium, and price floors below equilibrium — otherwise, the price would never cross the floor or ceiling
- Price controls bound the function's domain. To put that in non mathematical terms, by bounding the price, you also bound the demand and supply functions at those points. *By bounding the functions, you ensure that the system will not reach equilibrium, leading to inefficiencies.*

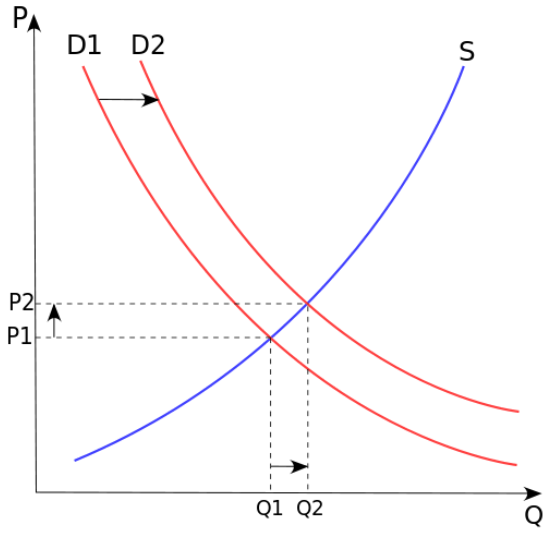


Fig 1.4: Thanks, Wikimedia