Economics: The distribution and use of limited resources with unlimited wants

The 10 Principles of Economics

* People face tradeoffs
  + Efficiency vs equity
    - Efficiency: an outcome is described as efficient if it is impossible to make someone better off without making someone else worse off
  + Safety vs cost
  + Key to successful decision making is knowing the real tradeoffs you face
* Cost of something is what you give up to get it
  + Main cost is time
* Think at the margin
  + Sweaters for $25, 2 for $45, 3 for $60, first cost $25, second cost $20, and the last cost $15
  + Marginal benefit
  + Marginal cost
  + Golden Rule of Optimization: Continue an action until Marginal Benefit = Marginal Cost.
  + Suppose
    - Spent $5000 restoring an old car, get an offer of $7000 for the car, but it needs $5000 more worth of work
  + Models & decision making
    - For a good model, suppose A,B,C are supplied and try to find the steps to F as accurately as possible.
    - Cheese Pizza: $2.99 or 2 slices for $5, 3 slices for $6
    - Competition Exam
      * Bad Bob’s: All You Can Eat $20
      * Applebee’s = $15/plate
* People respond to incentives
* Voluntary trade makes both parties better off
  + Production possibilities frontier
    - A relatively simplified view of the world
    - Based off
      * two goods
      * Production technology
      * Resources
    - Example
      * Frank the Farmer and Rosie the Rancher produce meat and potatoes. Frank can produce one unit of meat in 60 minutes and 1 unit of potatoes in 15 minutes. For eight hours available Rosie can produce 1 unit of meat in 20 minutes and 1 unit of potatoes in 10 minutes.
      * Frank
        + 1 unit of meat cost 4 units of potatoes
        + Inversely 1 unit of potatoes cost ¼ units of meat.
      * Rossie
        + 1 unit of meat cost 2 units of potatoes
        + Inversely 1 unit of potatoes would cost ½ units of meat.
      * Trade between the two (Autarky: a world without trade)
        + Why

The ability to consume more than we would otherwise

Wider variety

Advance economy

* + - * + How

Trade based on comparative advantage

Rossie specializes in meat, Frank in potatoes

Trade is 1 meat for 3 potatoes

With Frank not having to trade 4 potatoes and Rossie gaining more than 2 potatoes makes both parties happy

* + - * + opportunity Cost example

Mow Lawns(L) || Wash Car(W)

Larry: 1L, 1C

Moe: 1L, 2C

Curly: 2L, 1C

To get the best opportunity cost, first have Curly work, then Larry, then Moe

* Institutions Matter: How systems are set up matters
* Trade is based on comparative advantage and that specialization with trade makes both parties better off.
  + That both nations are better off doesn’t mean that everyone in the in nations are better off.
  + Tariffs and import restrictions have tried to restrict/lessen trade.
  + *The Logic of Collective Action* by Mansur Olson.
* How are prices determined?
  + Supply and demand
  + What you want is equilibrium/market price/market clearing price where you do not have any excess and you do not have to many buyers
  + A decrease in supply will increase price, and quantity will move with the supply demand point
  + A change in income will change the demand for a product
  + Normal and inferior goods
  + Fads will control prices
  + Rationing will cause fluctuations in prices
  + Queuing will cause people to judge how much they value their time
  + Quotas could potentially alleviate spikes in demand
  + Similar things happen to supply
    - Prices of related goods will also be fluctuating as the main good does
    - There are two subgoods, compliments and substitutes.
  + It is possible for both curves to shift.
    - When that happens, you will not be able to determine both curves and their intersection
* Elasticity will show how much the market could fluctuate without extreme changes.
  + How responsive quantity is to a change in some other market factor.
  + Price elasticity: ED =
  + ED>1: demand is elastic
  + ED<1: demand is inelastic
  + Determining the Price Elasticity
    - Necessity vs Luxury
      * Necessities are inelastic
      * Luxuries are elastic
    - Number of substitutes/definitions of the market
      * The more substitutions there are, the more elastic the price.
      * The broader we define a market, the less elastic the price.
    - There are areas that are elastic and there are areas that are inelastic
    - Budget share determines price
    - The amount of time it takes to change the supply affects the stability
    - Revenue
    - Wage can be an example of the elasticity overtime, at first there will be little effect, but over time, it will become more extreme and obvious
* Cross-price elasticity
  + How the quantity of an item changes the price and demand of another item
  + Need to look at the impact of moving away from market price
  + The difference of what you are willing to pay and what it actually cost you is the consumer surplus
  + Producer surplus is when the price received – reservation price
  + When the price is correct, there is a maximization of surplus gained from trade
  + Areas outside of the surpluses is dead weight loss
  + We care about dead weight loss because there is value that is no longer flowing
  + You can determine relative value based off the options provided
* Taxes
  + Put a wedge between the price demanders pay and the price sellers keep
  + It is possible to reach an equilibrium, but it is not as balanced as pure supply and demand.
  + *Freakonomics* a book by Steve Levitt/podcast that shows how stuff like real estate is a weird mentality.
  + The tax statutory burden
    - Who is responsible for paying the tax
  + We are concerned about the economic burden (incidence)
    - Who provides the funds
  + Economic incidence is completely independent of the statutory incidence
  + When these taxes are placed, the tax will fall on the less elastic side of the market.
  + Dead weight loss (DWL) is smaller when supply or demand in relatively inelastic.
* Externalities
  + Third party effects that are uncompensated
  + Too much (negative externality) or too little (positive externality) of an activity will place
  + Solutions
    - Regulation (Command and Control)
      * Easy to implement
      * Inexpensive
      * Inefficient
      * A way of making a better mistake
    - Taxes
      * Needs to be able to calculate the dollar value of the harm
      * Tax at the appropriate decision level
      * Tax has to impact incentives
    - Market-Based Solutions
    - Pigouvian Taxes
      * Put taxes/subsidies on an activity to change the actions of people
      * Cigarette taxes should be negative
      * Alcohol taxes are way too low due to the way it effects other people

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| --- | --- | --- |
| Rival  Excludable | Yes | No |
| Yes | Private  Good | Club  Good |
| No | Common  Resource | Public  Good |

* + - Common Resource
      * Crab Fishing in the Bering Sea
      * Tragedy of the Commons
      * Overall catch quotas to help prevent overfishing
      * One of the few times where government can actually help
      * Basic solution to a common resource problem is to issue property rights
      * Poaching solves the problem by allowing people to raise money or protect the animals
    - The Free Rider Problem
      * Is connected to public goods
      * Decision makers will want to take advantage of a good without paying for the good.
      * This can be seen with large groups in restaurants
    - Public good Provision
* Market structures
  + Production Function
    - Essentially the recipe to create product
    - Q=f(k,c)
      * Q=Production
      * k=capital
      * c=labor
    - long run: all the inputs are variable
    - short run: at least one of the inputs are fixed
    - Cost: as a function of quantity
      * Fixed cost: cost that do not change with fluctuation to output
      * Variable cost: the cost varies based on fluctuations to output
      * Total cost: the combination of the two costs
    - Marginal cost: (change in output) | (change in total cost)
    - Competition vs monopoly is a scale
      * |-competition---------------------------------------------------monopoly-|
    - For Competition
      * Large number of buyers and sellers
      * Goods are perfect substitutes
      * Complete information
      * Free entry and exit
    - For Monopolies
      * One seller of the good
      * No close substitutes
      * Barriers to entry
    - Difficulty of entry will drive profits to zero
  + Constant cost industry: long run supply curve for this market will be horizontal
  + Monopolistic Competition
    - A reasonably large number of firms
    - Differentiated products
    - Free entry into the market
    - Also make zero economic profits
    - Because we are on a downward sloping region of the average cost curve, production is inefficient
    - A world with product differentiation
      * In the world of fast food
        + Oligopoly => McDonalds, Burger King, Wendy’s
        + Monopolistic Competition => Sonic, Rallies, etc., etc., …
  + Monopolies
    - Price set is based off the demand curve
    - Inefficient when
      * Dead weight loss from reduced quantity
      * Production is not at minimum average cost
      * Products differ
      * Total Revenue = (aQ – bQ2)
      * Marginal Revenue = (derivative (total revenue))/(derivative(quantity))
* Price Discrimination (Pricing Strategy)
  + Idea: sell different units of a good to different consumers at different prices tied to the consumer willingness to pay.
  + Coupons are a way of doing this
  + To be able to do this
    - Identify people with different willingness to pay
    - Prevent arbitrage (resale)
  + First degree pricing: each unit sells for its willingness-to-pay
  + Second degree pricing
    - Discount on Quantity: the more you by, the cheaper it gets per unit
    - Two-Part Pricing: Membership price and the price per unit price
    - Use a menu of two-part prices
      * High demand customers are willing to pay a high fee with a low per unit price
      * Low demand customers pay a low fee, but a high per unit
  + Third Degree pricing
    - Separate markets
    - Leisure vs professional
* Barriers to Entry
  + Economic
    - High fixed cost
      * Utilities
      * Natural monopoly situation – average cost decreases over the entire range of demand
    - First mover advantage – xerox, Kleenex, band-aid
  + Legal
    - Patents/Copyrights/Trademarks
* Oligarchy
  + Cooperation in Prisoner dilemma games is unlikely to happen
  + One-shot game: interaction between parties only happens one time