9 – to do on my own

10 – Rational Consumer

Introduction

Market Demand (as a unique agent) + Market Supply 🡪 Market EQ 🡪 Market Eq after Government Intervention

Consumer are perfectly rational decision maker (they make choices to maximize their benefits/ preferences)

Rational, but Human too

Three main reasons people might seem irrational

1. Concerns about fairness  
   - they care about they utilty on someone else
2. Bounded rationality – good enough  
   - sometimes they do not try to consume the bundle to maximize their utilty, but one bundle that is good enough
3. Risk Aversion  
   - Individuals choose the certain option to avoid risk

Bounded Rationality

There are known (and predictable) holes in our rationality that stem from six established decision-making mistakes:

* Misperceiving opportunity costs  
  When an individual has to decide how to maximize, they need to have a good understanding and unbiased opinion of opportunity cost. **If we don’t understand all of the costs, we cannot make a rational choice.**
* Being Overconfident  
  **Nonprofessional investors** who engage in speculative investing have **significantly worse results** than professional brokers because of their misguided faith in their ability to spot a winner.  
  Ex: 2008
* Having unrealistic expectations about future behavior  
  Most of us are overly optimistic about our future behavior and level of discipline
* Counting dollars unequally  
  ***Mental accounting:*** the habit of mentally assigning dollars to different accounts so that some dollars are worth more than others. ***(E.g., spending more with credit cards than cash)***
* Being loss-averseAn oversensitivity to loss that leads to unwillingness to recognize a loss and move on  
  Ex: losses are felt more than gainings
* Having a bias toward the status-quoThe tendency to avoid making a decision altogether.
* Ex.: how people make decisions about investing in their employer-directed retirement accounts (401(k)). With a 401(k), employee can set aside a part of their salary tax-free through payroll deductions. Some companies operate on an opt-in basis. Some other companies on an opt-out basis.

-The proportion of individual enrolled is greater in companies that operate on an opt-out basis.

-People tend to just go with the status quo.

Consumer Choice

* Individuals 🡪able to define what is the consumption bundle that makes them able to maximize their preferences

How do rational consumers choose what to spend their money on?

* PREFERENCES
* BUDGET CONSTRAINT

Analysis of consumption bundles composed by **two goods** (x and y)

Preferences

1. Indifference Curves
2. The Marginal Rate of Substitution
3. The Utility Function (allows us to quantify the utility that consumer get)
   * Marginal Utility
4. Some Special Functional Forms

Indifferent Curve

Definition: An **Indifference Curve** is the set of all baskets for which the consumer is indifferent

Definition: An **Indifference Map** illustrates the set of indifference curves for a particular consumer

C, A and B 🡪 same level of satisfaction, even though they are composed of different level of Y and X, they lie on the same curve so they have the same level of utilty/ satisfaction.

IC1, IC2 … different level of satisfaction of the individuals.

Properties of Indifference curves

1. Indifference curves never cross
2. The farther out an indifference curve lies – the farther is from the origin – the higher the level of total utility it indicates
3. Indifference curves slope downward
4. Indifference curves have a convex shape

Indifference Curves Never Cross

* A, C same IC1 🡪 same level of satisfaction
* Another potential Basket B, which is preferred to A

The farther out an indifference curve lies – the farther is from the origin – the higher the level of total utility it indicates

The indifference curves slope downward: more is better but if A, B and C are on the same indifference curve, an increase in X must be compensated by a decrease in Y

* If a,b,c are on the same IC .. the fact that the IC is going downwards

Indifference curves have a convex shape:

1. steeper slope in A, flatter slope in B
2. average bundles are preferred to the extremes  
   - If I have a,b an average bundle 🡪 provides a greater utility because it lies in a IC that is farther   
   - Only convex curves have this property

Marginal Rate

There are several ways to define the **Marginal Rate of Substitution**

Definition 1: It is the maximum rate at which the consumer would be willing to substitute a little more of good x for a little less of good y in order to leave the consumer just indifferent between consuming the old basket or the new basket

Definition 2:

It is the negative of the slope of the indifference curve:

MRSx,y = - dy/dx (for a constant level of preference)

Diminishing Marginal Rate of Substitution

An indifference curve exhibits a **diminishing marginal rate of substitution**:

1. The more of good x you have, the more you are willing to give up to get a little of good y.
2. The indifference curves
   * Get flatter as we move out along the horizontal axis
   * Get steeper as we move up along the vertical axis.

The Utility Function

U (X;Y)

Definition: The utility function measures the level of satisfaction that a consumer receives from any basket of goods.  
It does not allow us to tell how someone’s likes better A or B

* The utility function assigns a number to each basket
  + More preferred baskets get a higher number than less preferred baskets.
  + Utility is an **ordinal** concept

The precise magnitude of the number that the function assigns has no significance

Ordinal and Cardinal Utility

* **Ordinal** **ranking** gives information about the **order** in which a consumer ranks baskets
  + E.g. a consumer may prefer A to B, but we cannot know **how much more** she likes A to B
* **Cardinal ranking** gives information about the **intensity** of a consumer’s preferences.
  + We can measure the strength of a consumer’s preference for A over B.

Implications of an **ordinal utility function:**

* Difference in magnitudes of utility have no interpretation per se
* Utility is not comparable across individuals
* Any transformation of a utility function that preserves the original ranking of bundles is an equally good representation of preferences.

eg. U = xy U = xy + 2 U = 2xy

all represent the same preferences.

Recap:

* Indifference curves: ... that gives the consumer the same level of satisfaction
* Greater level of satisfaction –> the farther out

Marginal Rate …leave the consumer at the same level of satisfaction

The ratio between changes in Y and changes in X

Utility function is a mathematical number that provides the

Ordinal Utility

Marginal Utility

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Consumer choice