The budget constraint

- We all have limits to how much $ we can spend
- A consumer's budget constraint identifies which combinations of goods and services we can purchase with a limited budget at the given price
- The budget line is a representation of the budget constraint
The budget constraint

- The general equation for the budget line in a two-good scenario
  - \( I \) – is the total amount of $ available to spend on the two goods
  - \( Y \) and \( X \) are the quantities of each good you wish to purchase
  - The following equation implies what is spent on the goods is equal to how much is available for spending:
    \[ I = p_x X + p_y Y \]

- The equation for the budget line will be
  \[ Y = \frac{I}{p_y} - \frac{p_x}{p_y} X \]

- What happens when income or prices change?
  - Price of a good goes down, can buy more
  - Price of a good goes up, can buy less
  - Total income goes up, can buy more of both goods

- Consumer behavior
  - People like to be happy
  - In economics we use the term “utility” to represent different levels of happiness, preference, or satisfaction
  - Higher levels of satisfaction imply higher levels of utility
  - Example – I get utility (satisfaction) from using (consuming) my Ford Escort
    - I would get more utility (greater satisfaction) from using a SAAB 9-5

- You would never want to be consuming to the left of the budget line
  - Why?
    - You could be consuming more of at least one good with the given amount of money

- Figure 2 Changes in the Budget Line

  - (a) (b) (c)
Consumer behavior

- I get utility (satisfaction) from consuming one steak at the Broiler
  - I get a higher overall utility from having two steaks at the broiler
  - I will probably enjoy the second steak a little less than the first steak, but will definitely get greater over-all utility (satisfaction) from two steaks rather than one.

Consumer behavior

- Suppose I get 20 “utils” or 20 “satisfaction” points from consuming one steak and I get 30 utils from consuming 2 steaks in total
  - The marginal gain from the second steak is 10 utils, or 10 additional satisfaction points over the first steak
  - The marginal utility of the second steak is 10 utils
- Example – eating ice cream cones

Consumer behavior

- Note – We have the option of free disposal
  - The next 7th or 8th cone may start to make us sick and decrease our over-all level of utility or satisfaction
  - Instead of doing this we are allowed to throw these extra cones that would make us worse off away

Consumer behavior

- Rationality – for our economic models to make sense with respect to consumer behavior we need
  1) Any two alternatives (this could be either goods, situations, scenarios, etc) can be compared and one alternative is preferred to the other or both are equally preferred, and
  2) The comparisons are logically consistent

Figure 3 Total and Marginal Utility

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<th>Total Utility</th>
<th>Marginal Utility</th>
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<tr>
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<td>60</td>
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</tbody>
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Figure 4 Consumer Decision Making

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<th>Number of Movies</th>
<th>Marginal Utility / Dollar</th>
<th>Marginal Utility / Dollar</th>
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<tbody>
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Consumer decision making

- Where are consumers going to be the best off?
- What is the best mix between the different goods at the different prices?
- To determine what is the optimal we need to look at the marginal effects
  - That is, where is the marginal benefit (marginal satisfaction) of the next unit of consumption of one good is equal to the marginal benefit of another good while taking into consideration the different prices

Consumer decision making

- Need to look for a point where the marginal benefits per dollar spent are the same
- A utility maximizing consumer will choose the point on the budget line where marginal utility per dollar is the same for both goods.
  - At this point there is no further gain from reallocating expenditures in either direction.

Consumer behavior

- Note: When making our decisions in practice we do not go through trying to compute how many “utils” we are gaining on the margin for each dollar spent for each good.
  - We each go through this process every day without drawing graphs and writing down equations
  - What is important from an economic standpoint is that for replicating consumer behavior we need to build models that are consistent with consumer behavior and follow the same logic
  - Using these models we can replicate what consumers actually do!