Chapter 4

Consumer Behavior:

Consumer opportunities represent the possible bundle of goods and services a consumer can purchase.
Consumer preferences determine which of the goods will be consumed.

Properties of Consumer Behavior:
- Completeness
- More is Better
- Diminishing Marginal Rate of Substitution
- Transitivity

Budget Constraint

Restricts the bundle of goods that are affordable to the consumer.

\[ P_X X + P_Y Y \leq M \]

The consumer can only purchase a bundle of \( X \) and \( Y \) that are affordable with income \( M \).
The budget line can be represented as:

\[ P_X X + P_Y Y = M \]

and the slope intercept form is:

\[ \frac{P_X}{P_Y} X + Y = \frac{M}{P_Y} \]

Solving for \( Y \) is:
\[ Y = \frac{M}{P_Y} - \frac{P_X}{P_Y} X \]

Slope is \(-\frac{P_X}{P_Y}\) and \(Y\) intercept is \(\frac{M}{P_Y}\) (the maximum amount of good \(Y\) that the consumer can afford).

**Changes in Income:**

An increase in income will shift the budget line up and a decrease in income will shift the budget line down. The slope will stay the same, while the intercepts will increase or decrease.

**Changes in Price:**

An increase in price will pivot the budget line towards the origin. A decrease in price will pivot the budget line away from the origin.

**Consumer Equilibrium**

At the point of consumer equilibrium, the marginal rate of substitution should equal the slope of the budget line. This means that the personal rate at which the consumer is willing to substitute between \(X\) and \(Y\) is the same as the market rate the consumer can substitute between the two goods.

\[ MRS = \frac{p_X}{p_Y} \]

**Comparative Statics**

Substitution Effect: The customer’s reaction to a different market rate. Keeping purchasing power constant, the substitution effect determines the change in consumption bundle due to change in prices. An increase in the price of \(X\) will decrease the demand for \(X\) and increase the demand for \(Y\) (substitute away from \(X\) towards \(Y\)).

Income Effect: This is change in the consumption bundle as the "real income" of the consumer changes.

Total Effect: The sum of the substitution and the income effect.

**Applications of Indifference Curve Analysis:**

**Buy One, Get One Free**

This creates a kink in the budget line. With "buy one, get one free" (with limit to one per customer) offer, first unit purchased will give an extra unit to the consumer. This extra unit will be represented by a horizontal budget line. Graphically, from 0 to 1, the budget line will be downward sloping. From 1
to 2 units, the budget line will be horizontal and then followed by a downward sloping budget line.

**Cash Gifts, In-Kind Gifts and Gift Certificate**

A cash gift will increase the income of the consumer, shifting his budget line out (away from the origin). Therefore, the consumer can now afford more bundles of goods.

Gift certificates allow customers to purchase more merchandise of a particular good at a particular store. Therefore, he can only purchase the same amount of good Y, but increase his consumption of good X for each unit of good Y. This will be presented by a kink of the budget line at the y-intercept $\frac{M}{P_Y}$. He will be able to add the value of the gift certificate to the income he spends on good X, \( \frac{M+GC}{P_X} \).