Preferences

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Outline

1. Preferences
2. Indifference Curves

Topic

1. Preferences
2. Indifference Curves

Subtopic

1. Preferences
   - Consumer Preferences
   - Assumptions

Consumer Preferences

So far, the discussion has focused on *what the consumer can afford*. Now, the focus of the discussion will shift towards *what the consumer wants*.

In order to do this, consumer preferences need to be studied.

The end goal of consumer theory and optimisation is to find how to derive maximum satisfaction, given the consumer's constraints.

The topic of 'Budget Constraint' focuses on the 'consumer's constraints' part. Now, the discussion will move towards 'how to derive maximum satisfaction'.

Consumer Preferences

Suppose two goods exist in an economy; good 1 and good 2.

We create two bundles $X = (x_1, x_2)$ and $Y = (y_1, y_2)$.

- We say the consumer **strictly prefers** bundle X to Y and write:

$$(x_1, x_2) \succ (y_1, y_2)$$

- We say the consumer **weakly prefers** bundle X to Y and write:

$$(x_1, x_2) \succeq (y_1, y_2)$$

- We say the consumer is **indifferent** between bundles X & Y and write:

$$(x_1, x_2) \sim (y_1, y_2)$$

Subtopic

1. Preferences
   - Consumer Preferences
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Assumptions (Axioms)

- We assume that preferences are **complete**. This means that given any two bundles in the budget set, the consumer has a preference.
  - For any two bundles either $(x_1, x_2) \succ (y_1, y_2)$ or $(x_1, x_2) \succeq (y_1, y_2)$ or both i.e. $(x_1, x_2) \sim (y_1, y_2)$.
- We assume that preferences are **reflexive**. This means that any bundle is at least as good as itself.
  - For any bundle $(x_1, x_2) \succeq (y_1, y_2)$.
- We assume that preferences are **transitive**. This means that if bundle A is preferred to B, and B is preferred to C, then A is preferred to C.
  - For any three bundles X, Y, and Z: $(x_1, x_2) \succeq (y_1, y_2)$ and $(y_1, y_2) \succeq (z_1, z_2)$ implies $(x_1, x_2) \succeq (z_1, z_2)$.

Topic

1 Preferences

2 Indifference Curves

Subtopic

2. Indifference Curves

- Indifference Curves

Indifference Curves

Suppose we pick an arbitrary bundle X (x_1, x_2).

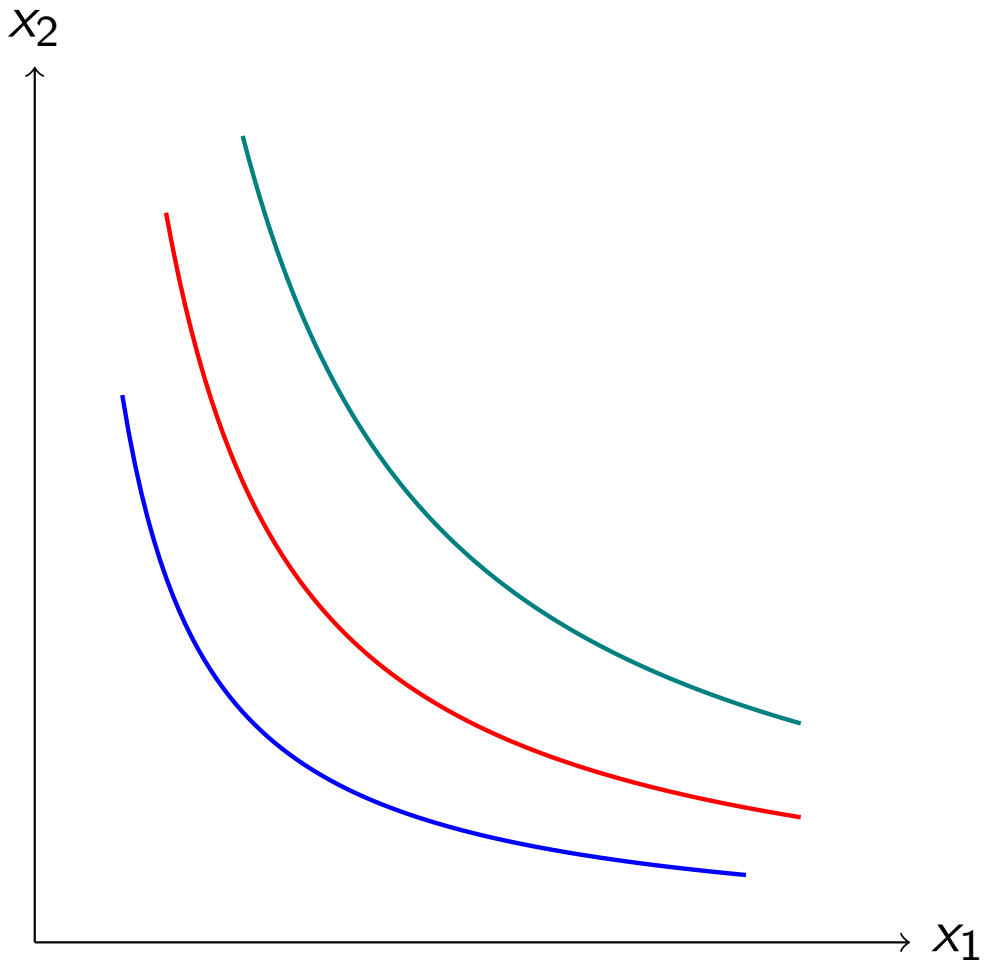
Definition

Indifference curve is the set of all bundles that the consumer is indifferent between. In essence, the bundles that the consumer likes as much as (x_1, x_2) make up the indifference curve.

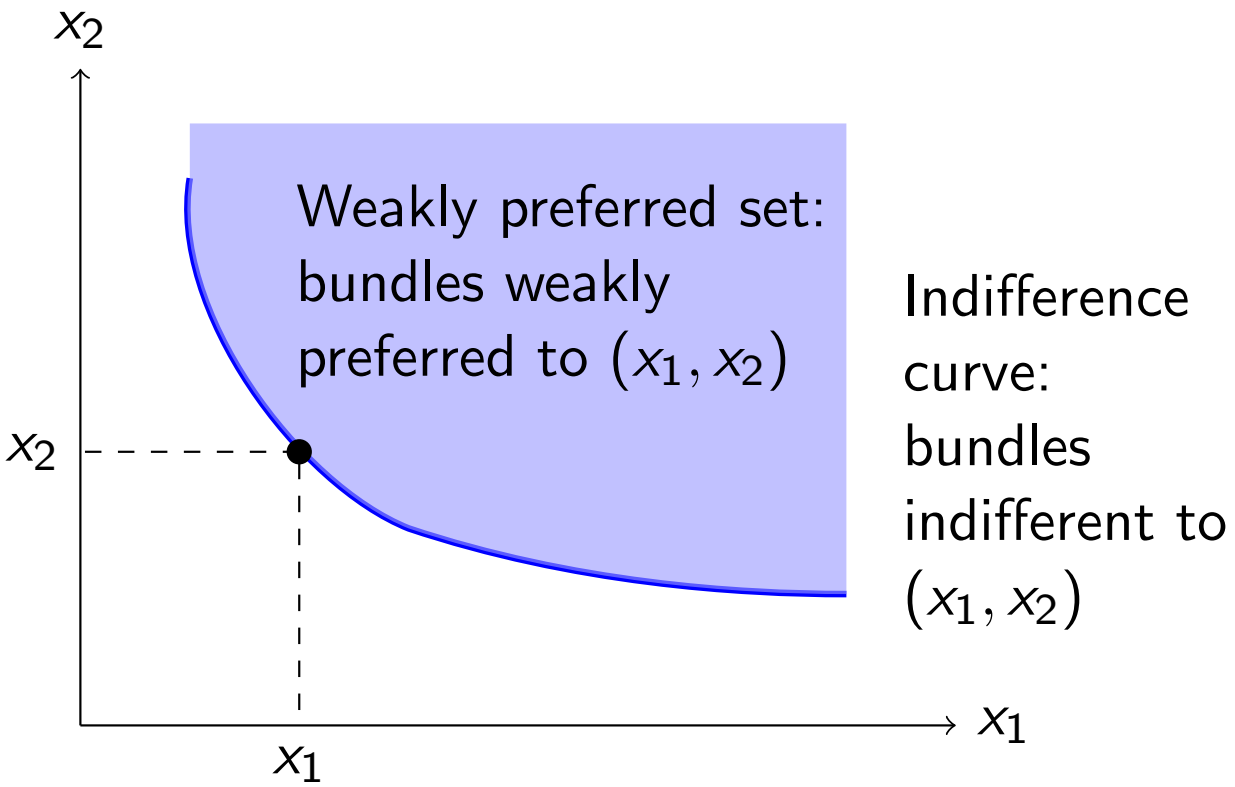
An indifference curve is the representation of a consumer's preferences. Therefore, it must obey completeness, reflexivity, and transitivity.

Then, all bundles that are weakly preferred to (x_1, x_2) form the **weakly preferred set**. We can then say that the indifference curve forms the boundary to the weakly preferred set of a bundle.

Indifference Curves Graphically

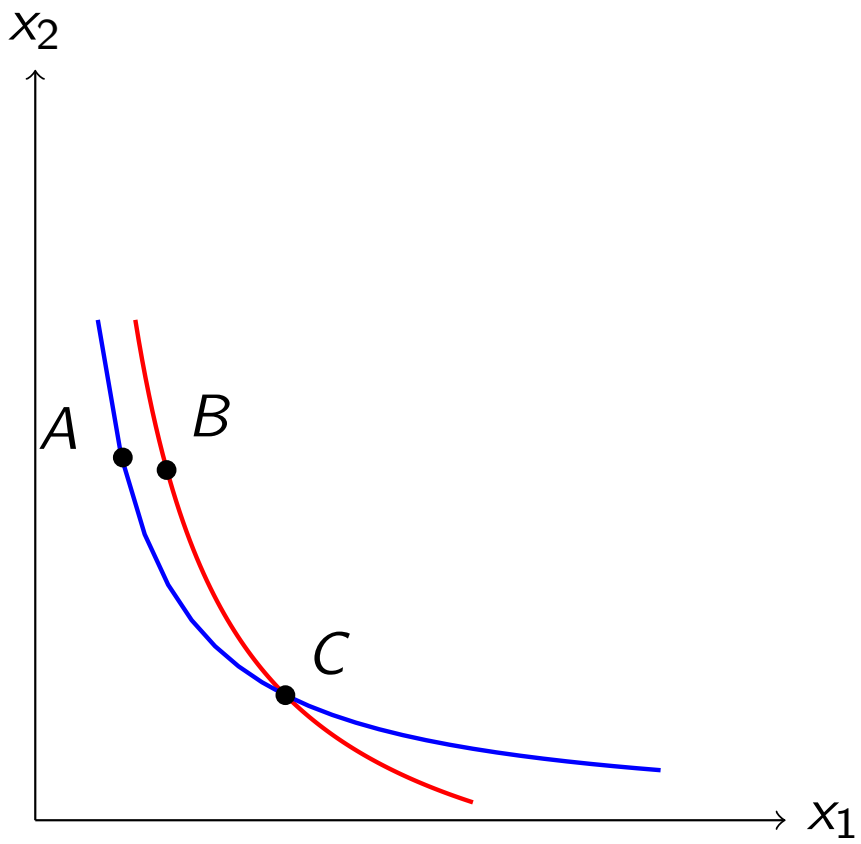


Weakly Preferred Set



Indifference Curves Never Cross

We require that indifference curves never cross. Why?



Indifference Curves Never Cross

In the previous diagram, bundle B is in the weakly preferred set of bundle A. Therefore, the consumer (weakly) prefers bundle B to A.

Furthermore, the consumer is indifferent between bundle A and C because they lie on the same indifference curve.

However, the consumer is also indifferent between bundle C and B as they lie on the same indifference curve. By transitivity, if $A \sim C$ and $C \sim B$, it must be true that $A \sim B$.

There is a contradiction. This is why two indifference curves must not intersect.