

Topic 1 – Consumer Choice

Economics and Scarcity

Scarcity refers to the limited nature of society's resources.

Economics is the study of how society manages its scarce resources.

Maximise society's "utility".

- **Trade-off:** Scarcity results in people facing trade-offs
 - o Efficiency: the property of society getting the most it can from its scarce resources.
 - o Equity: the property of distributing economic prosperity fairly among the members of society.
- **Opportunity cost:** the best alternative that must be given up obtaining another alternative
- **Margin:** rational people think at margin
 - o Marginal change is a small incremental adjustment to a plan of action
 - o Marginal benefit is the benefit created by a marginal change
 - o Marginal cost is the cost created by a marginal change
- Rational people make decisions by comparing the marginal benefit with marginal cost.

A person's willingness to pay for a good depends on the marginal benefits that an extra unit will yield. The marginal benefit depends on how many units a person already has.

Diamonds are more valuable than water as water is plentiful and the marginal benefits of having an extra diamond are far greater than that of having an extra cup of water.

- **People respond to incentives:** understanding how people respond to incentives is central to understanding how markets work.

Consumer Behaviour

Premises of Consumer Behaviour

Individual tastes or preferences determine the amount of pleasure people derive from goods and services they consume

Consumers face constraints or limits on their choices

Consumers maximise their well-being or pleasure from consumption, subject to the constraints they face.

Consumer Preferences Assumption: Completeness

1. Completeness Preferences are **complete** if the consumer can rank any 2 baskets of goods: A preferred to B; B preferred to A; or indifferent between A and B.
2. Preferences are **transitive** if a consumer prefers basket A to B and B to C, they also prefer A to C.
3. **More is better/Non-satiety:** Having more goods is better for a consumer.

Completeness

When facing a choice between any two bundles of goods, a consumer can rank them so that one and only one of the following relationships is true: The consumer prefers the first bundle to the second, prefers the second to the first, or is indifferent between them.

Preferences are only **complete** if the consumer is "able" to rank any two bundle goods.

Transitive

A consumer's preferences over bundles is consistent in the sense that, if the consumer weakly prefers bundle A to bundle B and weakly prefers B to C, the consumer also weakly prefers A to C.

Preferences are **transitive** if a consumer prefers A to B and B to C, they also prefer A to C.

More Is Better

All else being the same, more of a commodity is better than less of it.

- Good – a commodity for which more is preferred to less, at least at some levels of consumption
- Bad – something for which less is preferred to more, such as pollution

Preference Maps

Indifferent curve – the set of all bundles of goods that a consumer views as being equally desirable

Indifferent map – a complete set of indifference curves that summarise a consumer's tastes or preference.

Properties of Indifference Maps

1. Bundles on indifference curves farther from the origin are preferred to those on indifference curves closer to the origin
2. An indifference curve goes through every possible bundle
3. Indifference curves cannot cross
4. Indifference curves slope downward

Curves cannot cross, as that would imply two different levels of utility at the point on intersection.

Willingness to Substitute Between Goods (MRS)

Marginal rate of substitution (MRS) – the maximum amount of one good a consumer will sacrifice to obtain one more unit of another good

$$MRS = \frac{\Delta B}{\Delta Z}$$

MRS is the slope of the indifference curve.

Diminishing Marginal Rate of Substitution

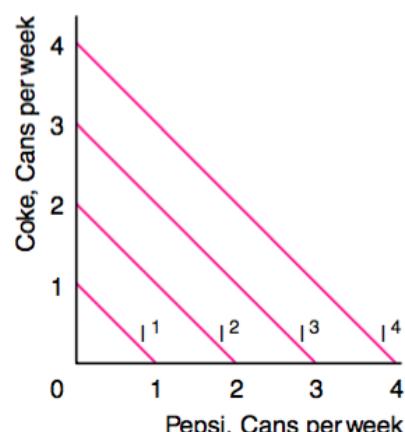
The MRS approaches zero as we move down and to the right along an indifference curve.

Curvature of Indifference Curves

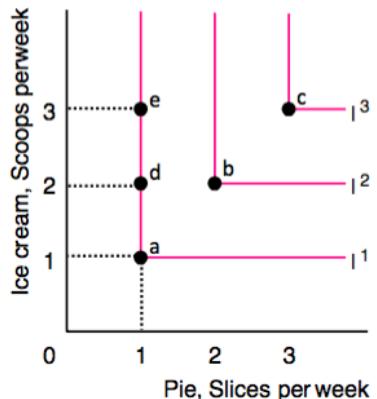
Casual observation suggests that most people's indifference curves are convex to the origin.

Special Cases for Indifference Curves

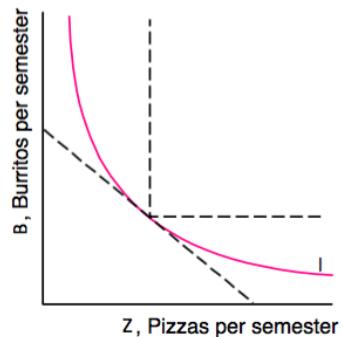
Perfect substitutes – goods that a consumer is completely indifferent as to which to consume. Coke and Pepsi.



Perfect complements – goods that a consumer is interested in consuming only in fixed portions. Bread and Butter, Cereal and Milk.



The standard-shaped, convex indifference curve in the panel lies between these two extreme examples.



Utility

Utility is a set of numerical values that reflect the relative rankings of various bundles of goods

Utility function is the relationship between utility and every possible bundle of goods

$$U(Z, B)$$

$$U(Z, B) = \sqrt{BZ}$$

Ordinary Preferences

If we only know a consumer's relative ranking of bundles, the measure of pleasure is ordinal.

- Tells us the relative ranking of two things but not how much more one rank is than the other

A cardinal measure is one by which absolute comparisons between ranks may be made (money)

Utility and Indifference Curves

An indifference curve consists of all those bundles that correspond to a particular level of utility.

If a consumer's utility function is $U(Z, B)$, then an indifference curve is given by $\bar{U} = U(Z, B)$

Marginal Utility

Marginal utility is the extra utility that a consumer gets from consuming the last unit of a good.

- The slope of the utility function as we hold the quantity of the other good constant.

$$MU_Z = \frac{\Delta U}{\Delta Z}$$

Marginal utility of a good Z is:

Utility and Marginal Rates of Substitution

The MRS is the negative of the ratio of the marginal utility of another pizza to the marginal

$$MRS = \frac{\Delta B}{\Delta Z} = -\frac{MU_Z}{MU_B}$$

utility of another burrito. Formally:

Budget Constraint

Budget line (or budget constraint) is the bundles of goods that can be bought if the entire budget is spent on those goods at given prices

Opportunity set is all the bundles a consumer can buy, including all the bundles inside the budget constraint and on the budget constraint

Rearranging Budget Constraint Formula

$$P_B B + P_Z Z = Y$$

$$P_B B = Y - P_Z Z$$

$$B = \frac{Y}{P_B} - \frac{P_Z}{P_B} Z$$

Slope of the Budget Constraint

$$B = \frac{Y}{P_B} - \boxed{\frac{P_Z}{P_B} Z}$$

↓
Slope = $\Delta B / \Delta Z = MRT$

The slope of the budget line is also called the **marginal rate of transformation (MRT)**.

Changes in the Budget Constraint

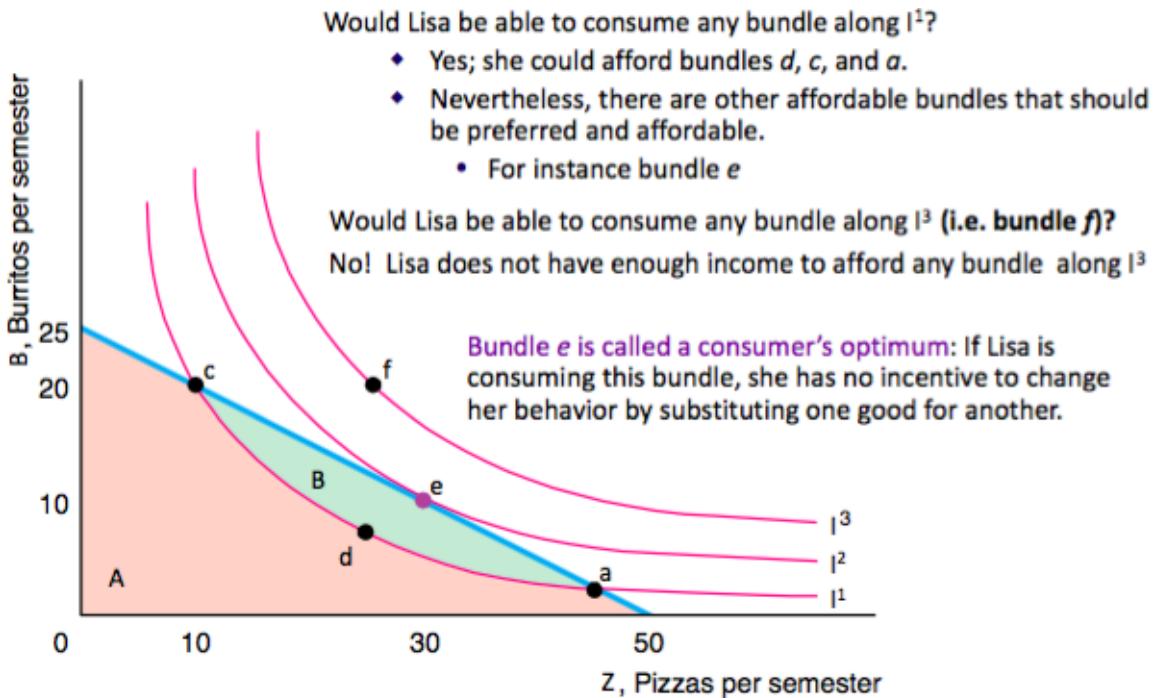
- If the government introduces a quota on a certain good, the budget line will not move. There will be a restriction on the quantity of that good a consumer can purchase.
- If the price of a good increases/decreases, the slope of the budget line will change.
- If a consumer's income increase/decreases, the budget line will shift outwards/inwards.

Constrained Consumer Choice

Optimal bundle is the bundle out of all the bundles that the consumer can afford that gives the consumer the most pleasure.

Consumer Maximisation

Point e is called the consumer's optimum.



The budget constraint and the indifference curve have the same slope at point e where they touch. Therefore, at point e :

$$MRS = -\frac{MU_Z}{MU_B} = -\frac{P_Z}{P_B} = MRT$$

↓ ↓
Slope of I^2 Slope of BL

Optimal Point is where $MRS = MRT$.