



University of  
Zurich<sup>UZH</sup>

# Leseaufträge «Mikroökonomik I»

## Modul 1: Einführung

### Unit 5:

#### – Präferenzen

#### Quellen:

- **Chapter 4 – Rational Consumer Choice**  
Frank, Robert H, & Cartwright, Edward. (2016). *Microeconomics and Behaviour (2nd European ed.)*. London: McGraw-Hill Education.

nothing. If something is free then it is a relatively simple decision to take it. Less clear is whether the spinach will be eaten. Recent studies suggest that over a third of bagged salad is thrown away by customers. Making the budget constraint more linear by, say, reducing the size of bags and the number of special offers would help alleviate waste. ■

To recapitulate briefly, the budget constraint or budget line summarizes the combinations of bundles that the consumer is able to buy. Its position is determined jointly by income and prices. From the set of feasible bundles, the consumer's task is to pick the particular one she likes best. To identify this bundle, we need some means of summarizing the consumer's preferences over all possible bundles she might consume. We now turn to this task.

## CONSUMER PREFERENCES

For simplicity, let us again begin by considering a world with only two goods: shelter and food. A **preference ordering** enables the consumer to rank any two bundles of goods in terms of their desirability, or order of preference. Consider two bundles, *A* and *B*. For concreteness, suppose that *A* contains 12 sq. m/wk of shelter and 8 kg/wk of food, while *B* has 10 sq. m/wk of shelter and 10 kg/wk of food. Knowing nothing about a consumer's preferences, we can say nothing about which of these bundles he will prefer. *A* has more shelter but less food than *B*. Someone who spends a lot of time at home would probably choose *A*, while someone with a rapid metabolism might be more likely to choose *B*.

*preference ordering* a ranking of all possible consumption bundles in order of preference.

The preference ordering enables the consumer to rank pairs of bundles but not to make more precise quantitative statements about their relative desirability. Thus, the consumer might be able to say that he prefers bundle *A* to *B* but not that *A* provides twice as much satisfaction as *B*.

Preference orderings often differ widely among consumers. One person will like Rachmaninoff, another the Red Hot Chili Peppers. Despite these differences, however, most preference orderings share several important features. Economists generally assume five simple properties of preference orderings. These properties allow us to construct the concise analytical representation of preferences we need for the budget allocation problem. We shall introduce these five properties over the next couple of pages. Here are the first two.

**1. Completeness** A preference ordering is *complete* if it enables the consumer to rank all possible combinations of goods and services. For any two bundles *A* and *B*, the consumer is able to make one of three possible statements: (1) *A* is preferred to *B*, (2) *B* is preferred to *A*, or (3) *A* and *B* are equally attractive. Taken literally, the completeness assumption is never satisfied, for there are many goods we know too little about to be able to evaluate. It is nonetheless a useful simplifying assumption for the analysis of choices among bundles of goods with which consumers are familiar. Its real intent is to rule out instances like the one portrayed in the fable of Buridan's ass. The hungry animal was unable to choose between two bales of hay in front of him and starved to death as a result.

**2. Transitivity** If, at current prices, you like steak better than hamburger and hamburger better than hot dogs, you are probably someone who likes steak better than hot dogs. To say that a consumer's preference ordering is *transitive* means that, for any three bundles *A*, *B* and *C*, if he prefers *A* to *B* and prefers *B* to *C*, then he always prefers *A* to *C*.

The preference relationship is thus assumed to be like the relationship used to compare heights of people. If O'Neal is taller than Nowitzki and Nowitzki is taller than Bryant, we know that O'Neal must be taller than Bryant. Not all comparative relationships are transitive. This is shown by the relationship 'defeats in football'. Some seasons, Manchester United beat Arsenal, and Arsenal beat Chelsea, but that does not tell us that Manchester United will necessarily beat Chelsea.

Transitivity is a simple consistency property and applies as well to the relation 'equally attractive as' and to any combination of it and the 'preferred to' relation. For example, if  $A$  is equally attractive as  $B$  and  $B$  is equally attractive as  $C$ , it follows that  $A$  is equally attractive as  $C$ . Similarly, if  $A$  is preferred to  $B$  and  $B$  is equally attractive as  $C$ , it follows that  $A$  is preferred to  $C$ .

The transitivity assumption can be justified as eliminating the potential for a 'money pump' problem. To illustrate, suppose you prefer  $A$  to  $B$  and  $B$  to  $C$ , but you also prefer  $C$  over  $A$ , so that your preferences are intransitive. If you start with  $C$ , you would trade  $C$  for  $B$ , trade  $B$  for  $A$ , and then trade  $A$  for  $C$ . This cycle could continue forever. If in each stage you were charged a tiny fee for the trade, you would eventually transfer all your money to the other trader. Clearly, such preferences are problematic.

## ECONOMIC NATURALIST 4.3

### Why should you not forget to ask the price?

What would you prefer: (A) a holiday in a 5\* hotel with every convenience you could ask for, (B) a holiday in a 3\* hotel with few facilities, or (C) a holiday in a cockroach-infested dorm? If you think the answer is easy, then suppose we also add that the 5\* holiday would cost €1 million, the 3\* holiday would cost €200, and the cockroach holiday is part of a TV game show where you can win €1 million.

The main point to take away from this example is that preferences are over *bundles* of goods and not goods. Clearly, the 5\* holiday sounds better than the 3\* holiday. But, would you be willing to pay the extra €999,800?

This is important to remember when judging transitivity. If all three holidays were to cost the same then we would clearly expect  $A$  is preferred to  $B$  and  $B$  to  $C$  and  $A$  to  $C$ . Things are less obvious when the different prices of the holidays are factored in. This is why we can observe preferences that violate transitivity. For instance, it does not seem so weird that a consumer would prefer  $B$  to  $A$ , and  $A$  to  $C$  yet prefer  $C$  over  $B$ . ■

As reasonable as the transitivity property sounds, we will see examples in later chapters of behaviour that seems inconsistent with it. But it is an accurate description of preferences in most instances. Unless otherwise stated, we will adopt it.

Taken together, the completeness and transitivity properties are very important and useful. Their main implication is that we can put different bundles in order from least preferred to most preferred. This allows us to use a utility function to represent the consumer's preferences (as discussed in the Appendix). More fundamentally, it means that the budget allocation problem is going to have a solution. Without either of these properties our task would look impossible. For instance, if the consumer's preference ordering is not complete, and he cannot tell us whether he prefers bundle  $A$  to  $B$ , then how are we to know what bundle is best for him to choose?

## Indifference Curves

The two properties of preference orderings we have discussed so far enable us to generate a graphical description of the consumer's preferences. To see how, consider first the bundle  $A$  in Figure 4.9, which has 12 sq. m/wk of shelter and 10 kg/wk of food. What we want to do is to find bundles that are equally attractive as  $A$ . To make our task easier we shall introduce the third property that we shall assume of preference orderings, namely, more-is-better.

**3. More-Is-Better** The more-is-better property means simply that, other things equal, more of a good is preferred to less. We can, of course, think of examples of more of something making us worse rather than better off (as with someone who has overeaten). But these examples usually contemplate some sort of practical difficulty, such as having a self-control problem or being unable to store a good for future use. As long as people can freely store or dispose of goods they don't want, having more of something can't make them worse off.

As an example of the application of the more-is-better assumption, consider two more bundles:  $W$ , which has 6 sq. m/wk of shelter and 4 kg/wk of food, and  $Z$ , which has 28 sq. m/wk of shelter and 12 kg/wk of food. The assumption tells us that  $Z$  is preferred to  $W$  because it has more