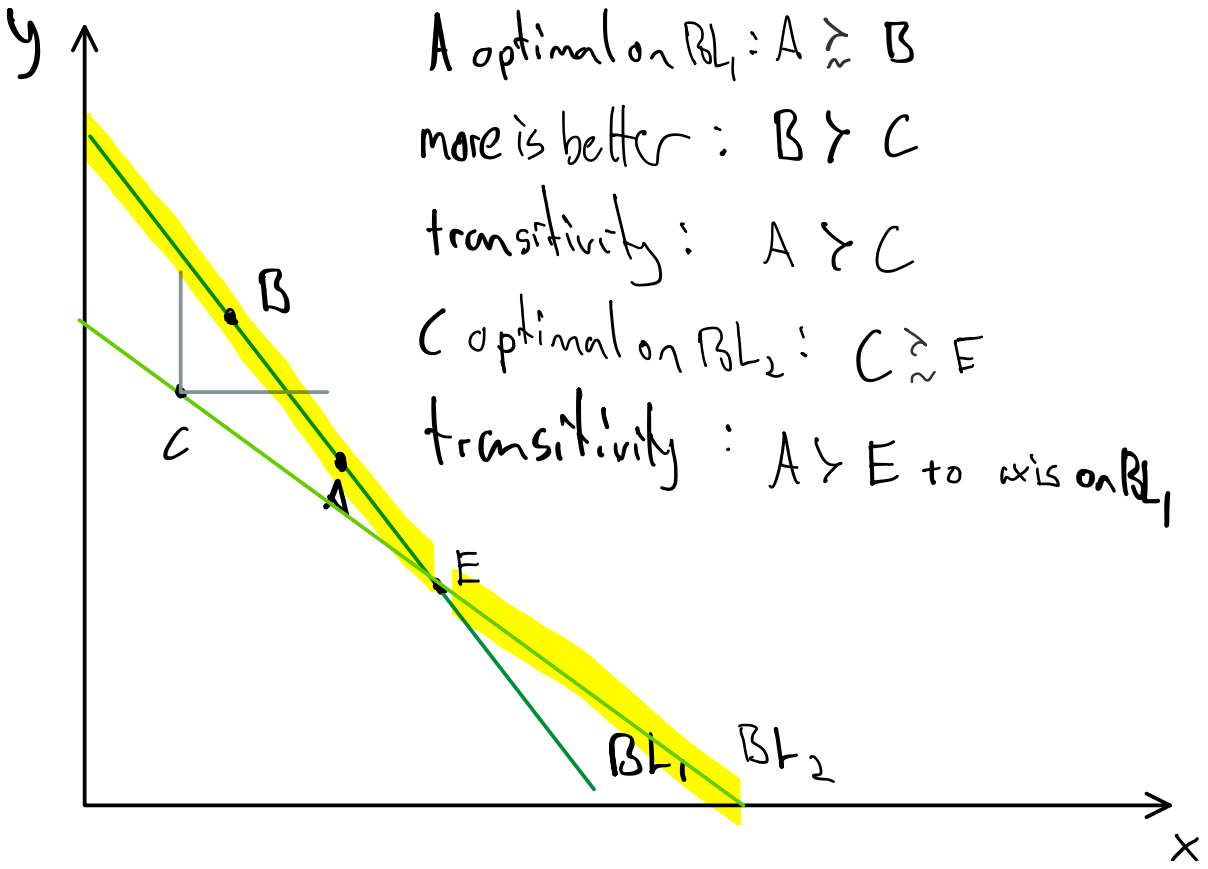
Revealed preference

As we have seen, given preferences, prices and income, we can determine the consumers optimal choice. Now we will think about what we can determine about preferences after observing changes in optimal choices as the budget line changes (i.e. prices or income changes). This is called revealed preferences.

The main idea is as follows: if bundles A and B cost the same (lie on the same budget line) and A is chosen, then the consumer likes A at least as much as B (written A >= B). Then we can apply our initial three assumptions on preferences to make further deductions. For example, if A is more expensive than C and A is chosen, then the consumer likes A more than C (written A>C). With enough observations we can get sense of what preferences are like, even if we can back out their precise shape. Note that this method assumes that preferences do not change and the consumer is choosing optimally.

Suppose A is chosen when budget is BL1 and C is chosen when budget is BL2.

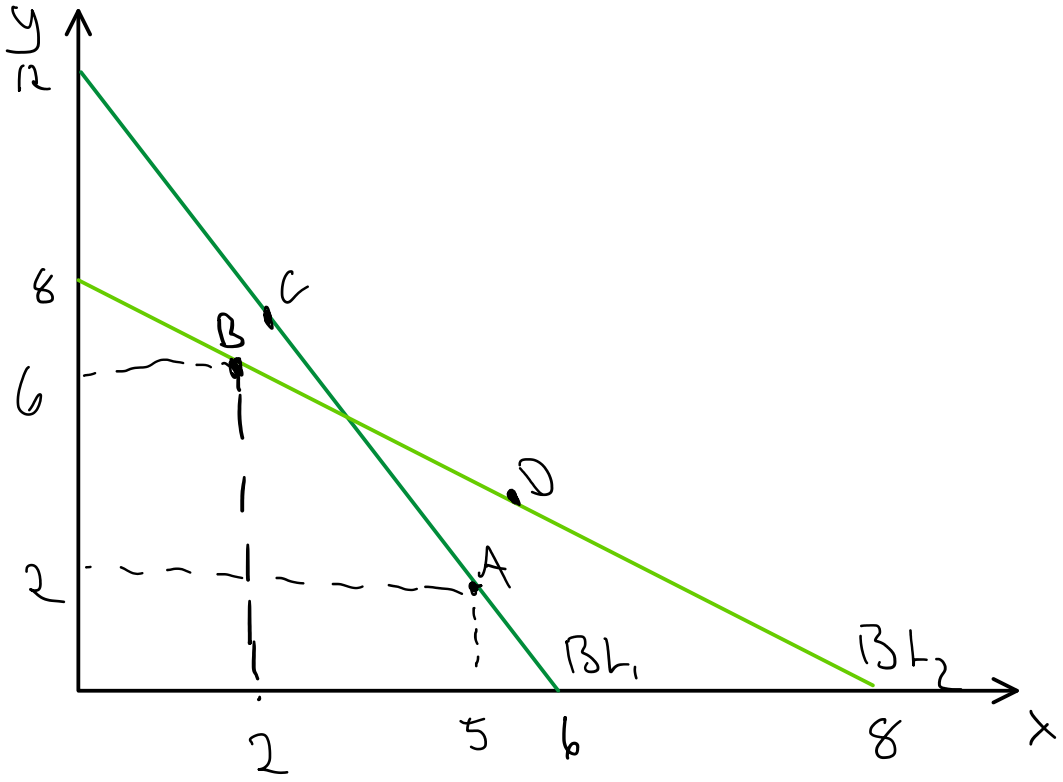


The highlighted part above represents the lowest possible indifference curve we could draw that is consistent with all of the consumer's choices.

Revealed preference methods can also be used to determine that a consumer is not choosing a way consistent with utility maximization as we've described.

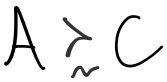
Example: Income is I=24. Suppose initial prices are Px = 4 and Py = 2 and this leads to optimal basket A = (5,2). Suppose new prices are $Px = 3$ and $Py = 3$ and this leads to optimal basket B = (2,6). We'll show that this is not consistent with our theory.

Let C=(2.25, 6.5) and D = (5.5,2.5). These are chosen because they have more of each good than B and A respectively **and** they are affordable at the old and new prices respectively. See the graph below



Note that B is affordable at initial prices: it costs 20. That A is chosen

implies that A is preferred to B. But then we have the following chain of reasoning.

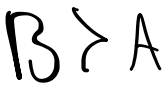
 Since A is chosen on BL1

 Since more is better

 By transitivity applied to previous two lines

 Since B is chosen on BL2

 Since more is better

 By transitivity on the first two lines

So this consumer is violating some assumption on preferences or is not maximizing utility.