

Bachelor of Statistical Data Science
Economics 1
Assignment 1

To be submitted by 03/09/2024

1. You were planning to spend Saturday working at your part-time job, but a friend asks you to go skiing. What is the true cost of going skiing? Now suppose you had been planning to spend the day studying at the library. What is the cost of going skiing in this case? Explain.
2. You win \$100 in a basketball pool. You have a choice between spending the money now or putting it away for a year in a bank account that pays 5 percent interest. What is the opportunity cost of spending the \$100 now?
3. The company that you manage has invested \$5 million in developing a new product, but the development is not quite finished. At a recent meeting, your salespeople report that the introduction of competing products has reduced the expected sales of your new product to \$3 million. If it would cost \$1 million to finish development and make the product, should you go ahead and do so? What is the most that you should pay to complete development?
4. The meal plan at University A lets students eat as much as they like for a fixed fee of \$500 per term. The average student there eats 100 kg of food per term. University B charges students \$500 for a book of meal tickets that entitles the student to eat 100 kg of food per term. If the student eats more than 100 kg, he or she pays extra; if the student eats less, he or she gets a refund. If the students are rational and have the same appetites at A and B, where will average food consumption be higher?
5. The first principle of economics discussed is that people face trade-offs. Use a production possibilities frontier to illustrate society's trade-off between two "goods"—a clean environment and the quantity of industrial output. What do you suppose determines the shape and position of the frontier? Show what happens to the frontier if engineers develop a new way of producing electricity that emits fewer pollutants.
6. During the Second World War, Germany's factories were decimated. It also suffered many human casualties, both soldiers and civilians. How did the war affect Germany's production possibilities frontier?