

Answer sheet: Week 6 self-study, Back to our three decisions

For release on Moodle. Suggested answers; there are no single right answers to questions 4 and 5.

1. **Three things that were handed to us:** for example the base rate (10% of such companies succeed), the friend's hit rates (80% for later successes, 30% for later failures) and the payoffs (CHF 5,000 / 0 / 1,050 from savings). We used Week 6 (Bayes' rule) to turn the tip into a belief of about 23%, and Weeks 2-4 (value and utility) to compare the options.
2. **Diminishing marginal utility.** With a concave utility function, the sure CHF 1,050 can have a higher expected utility than the investment, although the investment has the higher expected value. A risk-averse person may therefore prefer the sure amount (Bernoulli, Week 2).
3. **What could be learned from experience:** the base rate and the friend's reliability, through repeated outcomes and prediction errors (Week 5). In the real version this is a one-off decision, so there are no repetitions, and it is unclear which group of past companies is the right reference class.
4. **Any one of these, with a reason:** where the numbers come from; what to do when probabilities are unknown; whether to trust a claim; the effect of other people's choices; delayed consequences; emotion; uncertainty about oneself or about the model; when to stop gathering information.
5. **Open question.** A good answer says who or what supplied the numbers in the first case (a price, a rule, a published rate) and what was missing in the second (no history, no one to ask, outcomes you could not list).