Snippets

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1 Ockham's Razor

Ockham's Razor, as a technique for deciding between competing theories, is a **heuristic** rather than a principled inference technique like Bayes' rule.

2 Cognitive Biases and Statistics, or, Why Humans are Terrible at Probability

2.1 Base Rate Fallacy

Here we run into the first example of how ignoring the principles of Bayesian reasoning can lead us astray. The **base rate fallacy** is a systematic cognitive bias humans tend to fall for where important *general* information (*e.g.* the titular base rate) gets

3 Optimization Prob

The agent's optimization problem:

$$\text{minimize } Lx_i + z_i \tag{1}$$
$$\text{subject to } (p - pa)x_i + [p - (pa + L)]y_i + z_i \geq pb \tag{2}$$
$$pax_i + pay_i \leq p\omega_i \tag{3}$$
$$Lx_i + z_i \leq 1 \tag{4}$$
$$x_i > 0 \wedge y_i > 0 \wedge z_i > 0 \tag{5}$$

Given this *individual* optimization problem, we can analyze outcomes in the economy by defining corresponding *aggregate* quantities

$$x = \sum_{i=1}^{N} x_i, \ y = \sum_{i=1}^{N} y_i, \ z = \sum_{i=1}^{N} z_i$$

And a price of corn p represents an equilibrium in this model if, after every agent chooses their production vector $\langle x_i, y_i, z_i \rangle$, the aggregate quantities x, y, and z satisfy

$$(1 - a)(x + y) \geq Nb \tag{6}$$
$$Ly = z \tag{7}$$
$$a(x + y) \leq \omega \tag{8}$$