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ECO 602

Week 8 Reading Questions

**Describe the key difference between the non-parametric model and the parametric model.**

A nonparametric framework is used when it is not possible to specify a known distribution for the unknown component of the model, they base all inferences on the sample itself and don't link it to the population. They don't assume any particular underlying distribution. They do not involve making an explicit link to the underlying population from which the sample was drawn. In parametric frameworks the form of the distributions of the unknown components can be made. The likelihood methods allows for the calculation of confidence bounds on the parameters directly, it allows us to infer on the population.

**Interpolation and extrapolation may both be used to make predictions. What is the difference between interpolation and extrapolation?**

Interpolation is an estimation of a value within known values that we've observed, the sample. Extrapolation is an estimation of a value based on extending values outside of what's been observed thus making inferences about the population or future ranges of values.

**Explain why extrapolation has more pitfalls than interpolation.**

There is a greater likelihood of obtaining an invalid estimate. When we use extrapolation, we are making the assumption that our observed trend continues for values outside the range we used to form our model. For interpolation we are at least staying within the bounds of data we've collected and not trying to broadcast further out. Though it's often very necessary and what we do as scientists, but we follow strict assumptions to obtain answers.