

Stationary means

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I don't think that this is a FAQ, but if it is I apologize for the noise...

Discussions about "regression to the mean" tend to focus on fallacies relating to heights, grades, sickness, etc. Something I have not seen discussed is when/whether it is appropriate to assume a stationary mean (or, I think alternatively, a fixed distribution)?

Assuming a constant distribution and repeated sampling, I can intuitively understand regression to the mean. However, I can imagine situations where the distribution is changing over time. For example (and here I'm talking outside of my area of expertise) the mean height in North America is increasing over time (ostensibly due to dietary and health factors). If this is the case, then what would "regression to the mean" mean? Towards which mean would the regression take place? How would an observer know that a regression analysis is appropriate?

Any thoughts (or pointers to resources) on the issues would be gratefully appreciated.

Jason

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