

# Re: Statistical Analyses of Non-Static Group Question

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*Source:* <http://sci.tech-archive.net/Archive/sci.stat.edu/2007-08/msg00015.html>

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- *From:* Doug Morse <[morse@xxxxxxxx](mailto:morse@xxxxxxxx)>
  - *Date:* Sun, 12 Aug 2007 22:06:51 +0000 (UTC)
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Just for completeness, I suppose I should also mentioned the statistics approaches that I do think might be relevant. After getting through your last post, the thought of some sort of time-series linear regression came to mind. Time series regressions are pretty common in business, finance, and economics. There are many different kinds of time-series regression models. For your situation, I suspect that one of the moving average models might be most applicable (i.e., ARMA, ARIMA). This link provides a sound overview, but is fairly technical:

[http://en.wikipedia.org/wiki/Autoregressive\\_moving\\_average\\_model](http://en.wikipedia.org/wiki/Autoregressive_moving_average_model)

These models are intermediate to advanced, so you really have to know what you are doing to do them "right". You have to make sure you've met all the assumptions of the model, such as variable independence, univariate or multivariate normality (or other distributional assumptions), variance assumptions, etc., as well as check for model validity after it's been run, such as no systematicity in the residuals, look for possible collinearity issues, etc.

As I mentioned before, though, I'm wondering if just re-conceptualizing your data and perhaps re-aggregating in a different way might do the trick. When it comes to these advanced statistical models, the question really becomes: Do you really need such a scientific and rigorous treatment of your data?

Doug

On Sun, 12 Aug 2007 04:12:40 +0000 (UTC), Doug Morse <[morse@xxxxxxxx](mailto:morse@xxxxxxxx)> wrote:

I think that's it for questions. It sounds like what you have in place is working well for you -- up to the limits of the approach, and it seems you've done a fine job identifying those limits. I'm not sure that "statistics" per se is will be the fix to those limits, but it may might play some role.