# Notes on slow convergence of the Riley model

Convergence is often very slow, e.g. for the p53 data (but note convergence is fine for any one change of: difficult, technique(dfp), technique(bfgs), or changing the variable order.

Sometimes it is at the maximum but doesn't realise.

I've tried:

* changing the coding of riley in mvmeta\_lmata - little effect
* rescaling the variables - sometimes helps (if correlations get close to 1, perhaps scaling the later variables would help)

I've thought:

* is it a precision issue?
* are the starting values coming out wrong? in a 3-dimensional problem, setting start(I(3)) and trace suggests the starting values have gone wrong.
* does the same problem arise in other software, or is it only a Stata issue?

p53

* 1397 iterations using matrices
* 2026 iterations using direct computation

CPCB review 10

* 3 & 4 works with technique(bfgs): (non-zero) chol22 has no std error: re-scaling doesn't help (but can change the point estimates a bit)