

- restricted population data likelihood to only up to 70-74
- given the hypervariance for the old age mortality parameters (AB term) a tighter prior
- used the estimated hump component from the LQ model in the initial year (1960) as prior mean for the initial states of the hump component
- re-centered priors for the  $\rho$  to approximately around 0.5, i.e.  $\text{logit}(\rho) \sim N(1.1, 3.0)$ 
  - converged for all countries without manual tweaking except for Angola (1 Census), Congo Democratic Republic (1 Census), Gabon (Census period mis-labelling), Togo (false convergence), Cote d'Ivoire
  - results are much more sensible in terms of mortality schedules
  - estimated migrations are now much smoother, not sure whether its because of the re-centering in  $\rho$  or the strict priors given on the AB term
  - estimated epsilon are much more sensible
  - Burkina Faso male B term, Burkina Faso female migration, Cameroon B term, Congo 1995, Eswatini crossing female mx and male mx, Gambia B term kink DHS data, Guinea crossing female mx and male mx, Liberia crossing female mx and male mx, Malawi male A ; female A, Niger crossing  $_{45}q_{15}$ , Nigeria migration, Rwanda male lambda and female B, Sierra Leone migration, Mozambique (crazy estimates)
- Also tried to have  $A_m = A_f + A_d$ 
  - hard to converge, a lot failed
  - for those that converged, estimates are similar to above
  - Kenya AB term, Malawi insensible A, Mozambique AB term, Senegal AB, Uganda AB term
- correlated RW walks between male and female hump components?
- maybe overall prior for hypervariance still too loose, will investigate tightening up all together

## Angola:

- only 1 census (in 2014) from DYB after 1960 (also one in 1960 but at the moment using WPP 1960 for generality)