

# Advanced Programming in Quantitative Economics

Introduction, structure, and advanced programming techniques

Charles S. Bos

VU University Amsterdam  
Tinbergen Institute

`c.s.bos@vu.nl`

15 – 19 August 2011, Aarhus, Denmark

## Tutorial Day 3 - Afternoon

14.30P Implementing covariance estimation

- ▶ Duration model restricting  $\alpha$
- ▶ Covariance of parameters

16.00 End

18.00 Course dinner at 'Sct. Oluf'

## Duration: Restrictions

Continue with the earlier exercise.

Add the restrictions that

1.  $\alpha > 0$
2.  $0 < \beta_0 < 2$  (as an extra, not really implied by model...)

## Duration: Schedule

Remember steps:

- ▶ Write `TransPar`, `TransBackPar`
- ▶ Test them against each other
- ▶ Implement within full program
- ▶ Adapt standard errors, Delta method using `NumJacobian`
- ▶ Compare outcome with earlier program