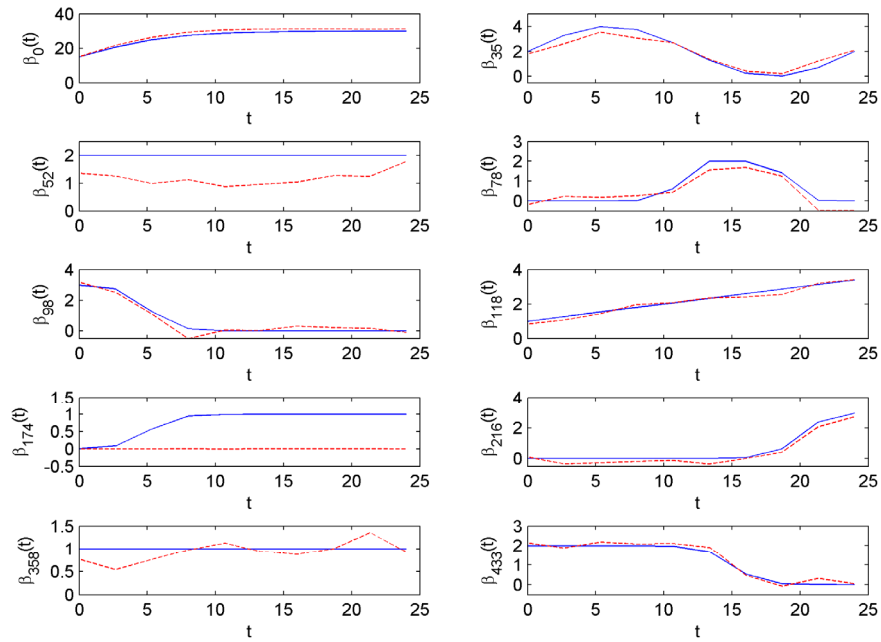


(a) Estimates of **VBfun** which assumed the AR(1) residual covariance structure



(b) Estimates of **VBnonfun** which assumed the AR(1) residual covariance structure

**Figure S4** Simulated data with  $k = 10$ ,  $u = 0:5$ : the estimated trend curves (red dashed lines) against the simulated trend curves (blue solid lines)