



Fig. 6.5. Orthogonalized impulse responses of VECM (6.7.1).

6.8 Exercises

Problem 6.1

Consider the process

$$y_t = \begin{bmatrix} 1 & 0 \\ 0 & \psi \end{bmatrix} y_{t-1} + u_t$$

with residual covariance matrix

$$\Sigma_u = \begin{bmatrix} 1 & \rho \\ \rho & 1 \end{bmatrix}.$$

- What is the cointegrating rank of the process?
- Write the process in VECM form.

Problem 6.2

Determine the roots of the reverse characteristic polynomial and, if applicable, the cointegrating rank of the process

$$y_t = \begin{bmatrix} 0.8 & 0.1 \\ 0.2 & 0.9 \end{bmatrix} y_{t-1} + u_t.$$

Can you write the process in VECM form?