

TS Module 5 Stationary moving average processes

(The attached PDF file has better formatting.)

Time series MA(2) process practice problems

*Question 5.1: Variance of moving average process

A moving average process of order 2 is $Y_t = e_t - \theta_1 e_{t-1} - \theta_2 e_{t-2}$, with $\sigma_e^2 = 1$

What is γ_0 , the variance of Y_t ?

- A. $1 - \theta_1 - \theta_2$
- B. $1 - \theta_1^2 - \theta_2^2$
- C. $1 - \theta_1 - \theta_2^2$
- D. $1 + \theta_1 + \theta_2$
- E. $1 + \theta_1^2 + \theta_2^2$

Answer 5.1: E

Y_t is the sum of three independent random variables

(See Cryer and Chan page 62, equation at bottom of page)