

Autoregressions: Problems

Suppose that you estimate the following VAR(1) process:

$$y_t = \alpha + \beta y_{t-1} + e_t \quad (1)$$

1. True or False? Each equation in a VAR is estimated through OLS.
2. True or False? Order matters in obtaining the regression coefficients for a VAR
3. How do VARs handle endogeneity of independent variables.

For #4-8, suppose that you are interested in estimating an economic system using a VAR with three variables: rainfall, crop yields, and agriculture profits.

4. True or False? When running a VAR, we need not worry about potential non-stationarity.
5. How would you determine how many lags to include in the VAR?
6. How would you order your VAR?
7. Using linear algebra, show how you would calculate the impulse response function for profits to a shock to rainfall.
8. What are the consequences of ignoring potential cointegration?