

TOBB-ETU, Economics Department
Applied Time Series
Practice Session (Ozan Eksi)

1-) a-) Copy the six variables given in the excel sheet into a E-views workfile, and name the workfile as Practice Session.

b-) Conclude whether VAR1, VAR2 and VAR3 series are stationary, trend stationary, or difference stationary.

c-) Use the stationary form of these three variables in a VAR system. Determine the appropriate lag length for the VAR as well.

d-) Using the structural factorization, apply the Cholesky decomposition for the VAR residuals and obtain impulse responses. For the Cholesky decomposition, assume that VAR1 does not effect VAR2 and VAR3 in the current period, and that VAR2 does not effect VAR3 in the current period. You can normalize the standard deviation of the residuals to 1.

e-) Discuss whether the impulse responses satisfy the restrictions you have given. Briefly interpret one of the responses on the graphs as well.

f-) Obtain the historical decompositions and interpret the results.

2-) a-) Use VAR4, VAR5 and VAR6 for this practice. Using the following regression, discuss whether any of the regression coefficients change over time? If yes, find the break date(s) and the value of the parameter before and after the break date(s)?

$$VAR4_t = c + \beta * VAR5_t + e_t$$

b-) Using the following regression, discuss whether the variance of the residuals are subject to break(s) over time? If yes, report the variance of the residuals between the break date(s).

$$VAR6_t = \alpha + \varepsilon_t$$