

View Report



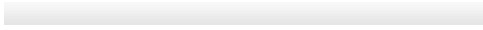
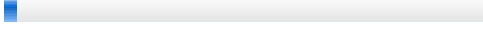
R1

(Number of First Attempts: 36)

MCQ

Question 1 Difficulty: 1




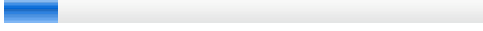
What is the main difference between vector autoregression (VAR) and univariate ARIMA?

- Variables do not need to undergo differencing in VAR to render them stationary  0 (0 %)
- ➔ There are multiple dependent variables in VAR but only 1 in univariate ARIMA  35 (97.22 %)
- Univariate ARIMA typically involve a greater number of parameters than VAR  0 (0 %)
- None of the above.  1 (2.78 %)

Average Grade: 0.97 / 1 (97.22 %)

Question 2 Difficulty: 1



What is the best practice model selection criteria to use for (i) VAR and (ii) ARIMA respectively?

- Adjusted R square, AICC  0 (0 %)
- AICC, SIC  2 (5.56 %)
- ➔ SIC, AICC  30 (83.33 %)
- AICC for both  4 (11.11 %)

Average Grade: 0.83 / 1 (83.33 %)

Question 3 Difficulty: 1

Which model selection criteria has the highest penalty factor for additional hyperparameters?


- None of these  0 (0 %) Average Grade: 0.94 / 1 (94.44 %)
- Adjusted R square  0 (0 %)

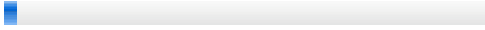
AICC  2 (5.56 %)

➔ SIC  34 (94.44 %)

Question 4 Difficulty: 1

What is the relationship between VAR and VECM?

None of these  1 (2.78 %)

VAR is VECM with additional error correction terms and independent variables  1 (2.78 %)

VECM is VAR with additional independent variables  0 (0 %)

Average Grade: 0.94 / 1 (94.44 %)

➔ VECM is a VAR with additional error correction terms added. Order of VECM is determined using same process as order of VAR  34 (94.44 %)

Question 5 Difficulty: 1

What is the explanation of cointegration?

Average Grade: 0.89 / 1 (88.89 %)

➔ Two or more time series are individually not stationary, but a linear combination of them are stationary.  32 (88.89 %)

Two or more time series are stationary, and a linear combination of them is also stationary  2 (5.56 %)

A linear combination of  2 (5.56 %)

two or more

time series is

stationary

A linear

combination of

two or more

time series is

not stationary

0 (0 %)

Question 6 Difficulty: 1

Which of the following is true about the number of hyperparameters in a VAR model?

→ Number of hyperparameters grows with the square of the order of the model

29 (80.56 %)

Number of hyperparameters grows linearly with the order of the model

5 (13.89 %)

Average Grade: 0.81 / 1 (80.56 %)

Number of hyperparameters grows with the square root of the order of the model

1 (2.78 %)

Order of the model does not matter

1 (2.78 %)

Question 7 Difficulty: 1

How do we ensure that the residuals of a VAR are stationary?

→ Same as with ARIMA (Ljung-Box test)

Average Grade: 0.75 / 1 (75 %)

27 (75 %)

It is not necessary to ensure that they are stationary

2 (5.56 %)

VARSelect ensures that the order of the model chosen will result in stationary residuals

6 (16.67 %)

BIC criteria ensures
stationarity



1 (2.78 %)

Question 8 Difficulty: 1

Which of the following is a mandatory preprocessing step for VAR?

Ensure that
variables within
the system are
decomposed



1 (2.78 %)



Ensure that
variables are
stationary



33 (91.67 %)

Average Grade: 0.92 / 1 (91.67 %)

None of these



2 (5.56 %)

Box-Cox on all
system variables



0 (0 %)