

View Report

R1

(Number of First Attempts: 91)

MCQ

Question 1

Which of the following is true of a Vector Error Correction Model (VECM)?

- ➔ Individual variables do not need to be stationary when modelled with a VECM as long as at least 1 cointegrating relationship exists

90 (98.9 %)
- All variables need to be stationary

0 (0 %)
- All variables need to be stationary as long as at least 1 cointegration relationship exists

1 (1.1 %)
- We render variables stationary regardless of whether a cointegrating relationship exists

0 (0 %)

Average Grade: 0.99 / 1 (98.9 %)

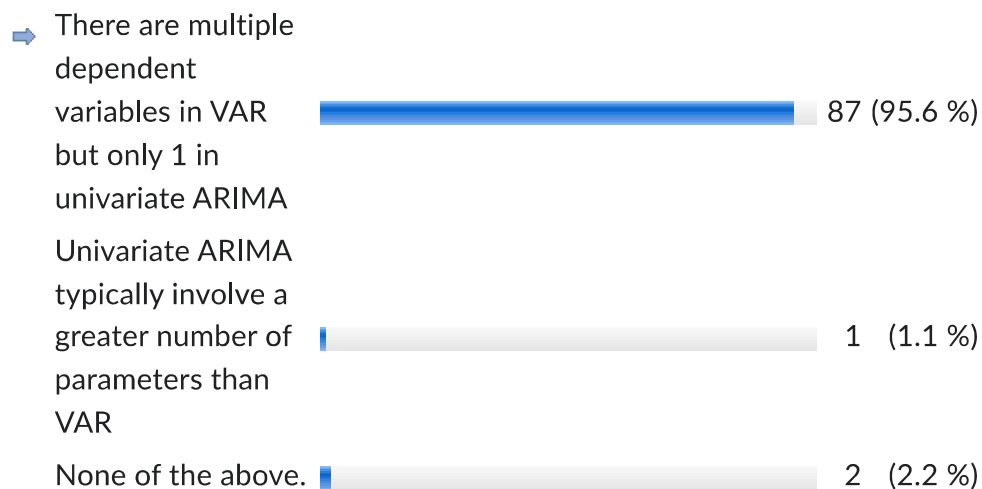
Question 2

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

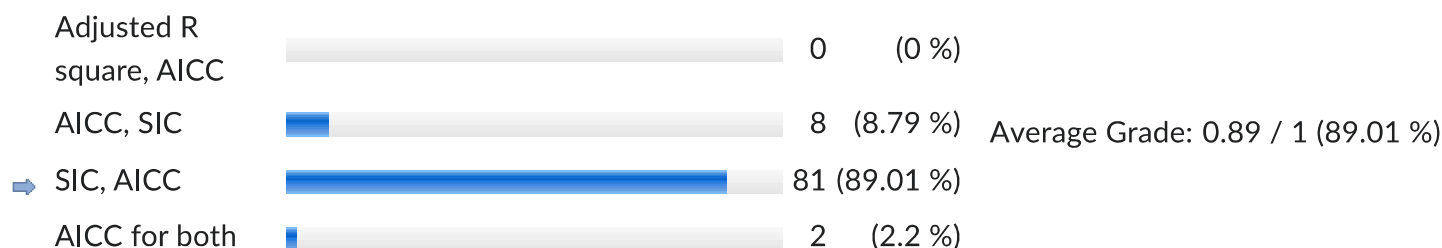
1 (1.1 %)

Average Grade: 0.96 / 1 (95.6 %)



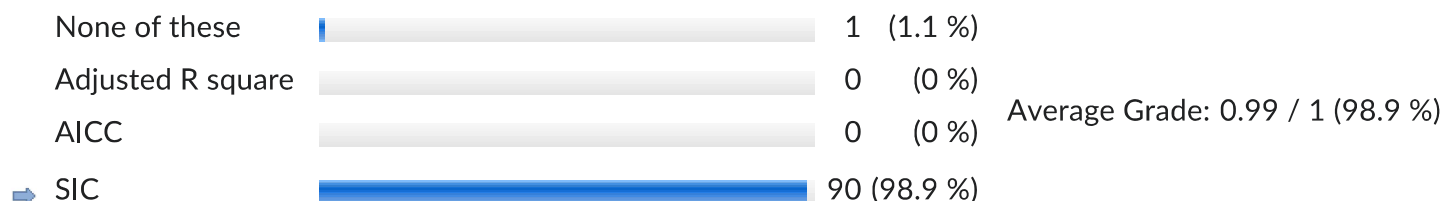
Question 3

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



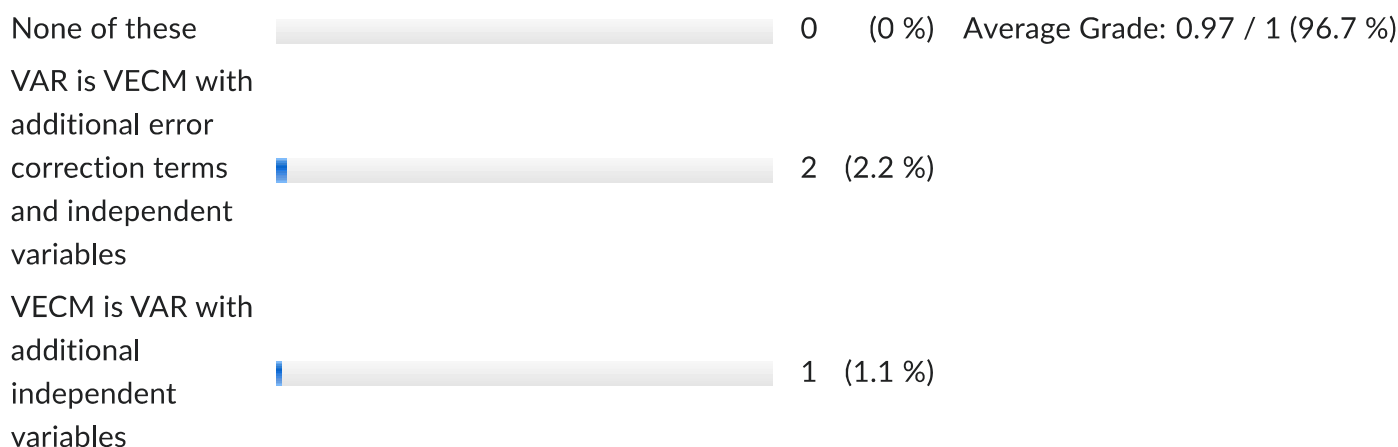
Question 4

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



Question 5



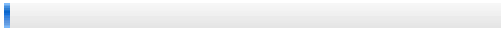

What is the relationship between VAR and VECM?



- VECM is a VAR with additional error correction terms added. Order of VECM is determined using same process as order of VAR
-  88 (96.7 %)

Question 6

What is the explanation of cointegration?

- Two or more time series are individually not stationary, but a linear combination of them are stationary.
- Two or more time series are stationary, and a linear combination of them is also stationary
- A linear combination of two or more time series is stationary
- A linear combination of two or more time series is not stationary
-  85 (93.41 %)
-  5 (5.49 %)
-  1 (1.1 %)
-  0 (0 %)

Average Grade: 0.93 / 1 (93.41 %)

Question 7

Which of following is intuition behind VECM?

- There is a long run relationship between a group
-  3 (3.3 %) Average Grade: 0.97 / 1 (96.7 %)

of variables.

Whenever spot values deviate from this, we use this to update our estimate of the long run relationship

→ There is a long run relationship between a group of variables.

Whenever current spot values deviate from long run relationship, we can forecast mean reversion back towards the long run. This allows us to strengthen our forecasts

We estimate long run relationship between a group of variables and use that to guide our joint forecast

None of these

 88 (96.7 %)

 0 (0 %)

 0 (0 %)

Question 8

Time series A is $I(1)$ while time series B is $I(0)$. Can we build a VECM?

No. Both time series need to be $I(0)$

 1 (1.1 %)

Average Grade: 0.14 / 1 (14.29 %)

We can, but need raw levels of A and B to pass cointegration test

 0 (0 %)

We cannot, as both need to be

 77 (84.62 %)

integrated to
the same order

- We may be able
to build a VECM
on 1st
difference of A
and raw levels of B, but need to
pass
cointegration
test
- 13 (14.29 %)

Question 9

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

- Number of
hyperparameters
grows with the
square of the
order of the
model
- 60 (65.93 %)
- Number of
hyperparameters
grows linearly
with the order of
the model
- 27 (29.67 %)
- Number of
hyperparameters
grows with the
square root of
the order of the
model
- 3 (3.3 %)
- Order of the
model does not
matter
- 1 (1.1 %)

Average Grade: 0.66 / 1 (65.93 %)

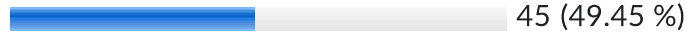
Question 10

Can we include terms involving other independent variables in a VECM?

- Yes, in the long
run equilibrium
portion of the
model
- 39 (42.86 %)

Average Grade: 0.43 / 1 (42.86 %)

Yes, in the error
correction
portion of the
model



Yes, as a
separate
equation



No

