

Quiz 06

Due Jan 23, 2019 at 23:59	Points 10	Questions 8
Available Jan 22, 2019 at 11:00 - Jan 23, 2019 at 23:59 1 day	Time Limit 30 Minutes	

Instructions

Quiz 06 covers the material in lectures 14 - 16 (pages 90 - 118 of the Course Notes)

This quiz is no longer available as the course has been concluded.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	14 minutes	9 out of 10

Score for this quiz: 9 out of 10
Submitted Jan 23, 2019 at 13:58
This attempt took 14 minutes.

Correct!

Question 1

1 / 1 pts

If we fit a Seasonal Factor model to monthly data, we ...

☒ fit 11 dummy variables for the seasonal component

☐ fit as many dummy variables as appear necessary from a plot of the data

☐ fit 12 dummy variables for the seasonal component

☐ fit 11 dummy variables for the seasonal component and delete any that are non-significant

Question 2

1 / 1 pts

If we fit 4 dummy variables to model the seasonal component in a quarterly series, ...

Correct!

☐ the model cannot be estimated

☒ All other options are correct

☐ we have a situation where the sum of the dummy variables will always be 1 for every observation

☐ we will have perfect multicollinearity

Question 3

1 / 1 pts

When we fit a seasonal factor model, each seasonal estimate tells us ...

☐ the difference between the season in question and the next season

☐ nothing of practical interest

☐ the difference between the season in question and the trend value

☒ the difference between the season in question and the omitted baseline level

Correct!

Question 4

1 / 1 pts

If we fit a Cosine Harmonic model to a seasonal series ...

☒ the coefficient associated with the Cosine term estimates the amplitude of the cosine curve

☐ the coefficient associated with the Cosine term estimates the height of the cosine curve

☐ we are unable to correct for autocorrelation using a lagged response variable

Correct!

☐ we will always get a good fitting model



Question 5

2 / 2 pts

If we have a monthly seasonal series and we fit a Full Harmonic model, our ...

Correct!



predictions will be exactly the same as those from a Seasonal Factor model



predictions will be more accurate than those from a Seasonal Factor model



predictions will be unreliable



predictions will be exactly the same as those from a Cosine Harmonic model

Question 6

0 / 1 pts

The main advantage of fitting a Full Harmonic model rather than fitting a Seasonal Factor model is ...



we can delete any significant seasonal harmonics that are too small to be of any practical use

Correct Answer



we can delete non-significant seasonal harmonics



prediction is always easier with a Full Harmonic model

You Answered



the Full Harmonic model will always have more degrees of freedom than a Seasonal Factor model

Question 7

2 / 2 pts

If we fit a Full Harmonic model to a seasonal series, the initial model, corrected for autocorrelation will have the same ...

- ☐ estimates for the time variable(s) and the lagged response variable and also have the same values for the F-statistic, the R-squared value, the adjusted R-squared value, the Residual Standard error and the seasonal estimates
- ☐ estimates for the time variable(s) and the lagged response variable and also have the same values for the F-statistic, the R-squared value, the adjusted R-squared value, the Residual Standard error and the intercept
- ☒ estimates for the time variable(s) and the lagged response variable and also have the same values for the F-statistic, the R-squared value, the adjusted R-squared value and the Residual Standard error
- ☐ values for all the estimates, test statistics and P-values in the model summary

Correct!

Question 8

1 / 1 pts

An alternative to removing all non-significant harmonics from a Full Harmonic model is to ...

- ☐ only remove non-significant harmonics when the time estimates are not significant
- ☒ only remove non-significant pairs of harmonics of the same frequency
- ☐ only remove non-significant harmonics when the p-values are greater than 0.2
- ☐

Correct!

only remove the same number of harmonics as there are non-significant seasonal terms in a Seasonal Factor model on the same data

Quiz Score: **9** out of 10