

TS Module 4 Regression methods

(The attached PDF file has better formatting.)

- Regression methods
- Interpreting regression output
- Residual analysis

Read Section 3.3, “Regression methods,” on pages 30-33. If you have taken a regression course, this material is easy. We use linear regression to fit autoregressive processes. You are not responsible for cosine trends on pages 34-36.

Read Section 3.5, “Interpreting regression output,” on pages 40-42. The material is covered in the regression analysis course, and it should be familiar to you.

Read Section 3.6, “Residual analysis,” on pages 42-50. Focus on q-q plots and the sample autocorrelation function. Know equation 3.6.2 on page 46 and Exhibit 3.17 on page 50.

The final exam problems for the time series course do not test regression analysis. The homework assignment for this module asks you to form the confidence interval for the regression coefficient; this is basic regression.

The student project requires you to run regressions. If you use Excel, you need fit only autoregressive processes, which you can do with linear regression. If you use more sophisticated statistical software, you can fit moving average and mixed models.

If you have not taken a regression course, the time series course is difficult. You can take regression analysis and time series at the same time, since the regression needed for the time series course is taught in the first few modules of the regression analysis course.