

Financial Econometrics I

Problem Set 3: Topics on ARMA Models

November 28, 2018

Learning objectives: After solving the following question you should be able to

- (a) Use time series plots, ACF, PACF, EACF, and information criteria to specify ARMA(p, q) models.
- (b) Estimate ARMA(p, q) models and interpret estimation results.
- (c) Conduct model diagnostics via analyzing estimation residuals.

1. Empirical Exercise

In the lecture, we fit an ARMA model to the differenced daily prices of the SPDR gold shares in 2011. Here you are given historical data of the Apple stock (`aapl.csv`). Use the the 2013 “adj close” (adjusted closing) data, which is the closing prices adjusted for all splits and dividends, to reproduce the study presented during the lecture, i.e., you will need to specify an appropriate ARMA model for the differences of the stock price data, estimate the selected model, interpret estimation results, and run common model diagnostics.