

WESS 2016 Intermediate Econometrics

Class Exercise 1: Autoregressive moving average models

The file `gdp.dta` is a STATA file containing seasonally adjusted quarterly data from 1947q1 to 2012q1 for the US for GDP deflator, GDP and GDP in 2005 billions of dollars.

1. Look at the data.
2. Generate the log of GDP in 2005 dollars and plot it against time.
3. Calculate the average annual growth rate of GDP.
4. Plot the autocorrelation and partial autocorrelation functions. Which AR, MA, or ARMA process you will estimate?
5. Estimate the process found in part (4) and comment on your results.
6. Generate the first difference of log GDP. Plot the autocorrelation and partial autocorrelation functions. Which AR, MA, or ARMA process you will estimate?
7. Estimate the process found in part (6). Comment on your results. What is the average GDP growth rate?