

Fin 335 Assignment 5

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1. Due April 7 (T) (6:00pm). No late submission will be accepted.
2. Total scores: 50 points. You can discuss the assignment with your classmates *but you need to do the assignment on your own hands and write down your own answers*. Otherwise, you learn little from this assignment.
3. After finishing your homework, turn in your assignment electronically via D2L Dropbox.
4. In this assignment, you will have to submit one MS word file (gdpgrowth.doc), including estimation output, explanations, and the graph.

Q1.

You are a staff in Council of Economic Advisers (CEA) to provide the President with objective economic analysis. Your boss Claire asked you to use ARMA model to forecast the US real GDP growth rate for the next three years (12 quarters).

- Go to FRED website to download the US real GDP data. You can find the data in here: <http://research.stlouisfed.org/fred2/series/GDPC96?cid=106>
- Click “Download Data” → In Units, choose “Continuously Compounded Annual Rate of Change”. In Data Range, choose “1984-01-01 to 2008-10-01” → Click Download Data to save the data in your folder.
- Write a SAS script including the following steps and produce the ODS output (gdpgrowth.doc).

Identification process (see Handout 12 and 05autoco.sas)

Set the lag to 20. And explain the ACF, PACF and guess what the preliminary ARMA model would be.

Estimation process (see Handout 13 and 06arma.sas)

Estimate the ARMA models for both terms order up to 2 (0,1,2). And choose the best model based on AIC.

Forecasting process (see Handout 14 and 07armafor.sas)

Use the best ARMA model to forecast.

Plot (see Handout 14 and 07armafor.sas)

Plot the whole period including actual GDP growth values, forecast value, and L95/U95 values. Copy and paste the plot onto your ODS output.