Time Series Analysis Spring 2018

Final Project Report Guidelines

The class entails the analysis of at least two time series with at least 50 observations for each series. The purpose of the project is twofold:

- To demonstrate competency with the techniques covered in the course, and
- To show that you are capable of integrating statistics with some other subject matter.

The format of the report is as follows:

A. Summary (not to exceed one page):

Contains a brief discussion of the problem addressed, a description of the final model, and any conclusions drawn from your analysis.

B Suggested body of your report (not to exceed four pages):

For each time series:

- Statement of the problem/hypotheses being entertained.
- Review of previous work done in this area and/or other subject matter considerations.
- Description of the data used in your analysis.
- Report the reason for what you did. Report anything unusual (outliers, level shift, interventions, etc) and your analysis. You may also consider the effect of exogenous variables, if applicable.
- Your final model and justification for why you think it provides an adequate fit to the data.
- Forecasts using your model and comparison to actual values and forecasts of alternative models proposed in the literature.

If those time series you analyze are related, you may also try to investigate the relation among them.

- C Appendix
 - 1. All "necessary" output edited to fit on A4 size papers.
 - 2. R Code used to produce the outputs.

Remarks:

- 1. Final project should be a group work with two/three students as a group.
- 2. Your report must be typed in English on A4 size papers.
- 3. Data (with a description) and computer code producing the results should be submitted together with the final report.
- 4. There is a penalty for late reports and for irrelevant materials as well.
- 5. Please submit a typed **proposal** (not to exceed one page) covering <u>at lease the first</u> three parts of (B) by May 9th.
- 6. The presentation time will be on $\underline{\text{May } 30^{\text{th}} / \text{Jun } 6^{\text{th}}}$.
- 7. Final report should be submitted by **June 20th**.
- 8. All submissions should be sent via email to the TAs, and cc to the instructor.