**ECON 5337**

**Group Presentations**

**Group presentations will be held on May 2**

Each group will conduct a forecasting exercise, the results of which will presented in front of your classmates on the date above. Your group should select a data series to forecast, which can come from any discipline. You are free to select any series you like, although you should first have your data approved by me. The only restriction that I do have relates to seasonal adjustment. If you select a data series that has both a seasonally adjusted option and a non-seasonally adjusted counterpart, you MUST select the non-seasonally adjusted one. Otherwise, it is my strong preference that your selection has either evidence of a trend (deterministic or seasonal) or seasonality. For those struggling to find appropriate data, I would be happy to assist you. A fantastic, readily assessable repository of economic and financial data can be found through the Saint Louis Federal Reserve’s Federal Reserve Economic Data (FRED) website, which can be found here:

<https://fred.stlouisfed.org/>

Specific instructions about the presentation

1. Please treat this as a professional presentation (e.g one you may give to your employer). However, feel free to dress casually.
2. Each presentation will last between 15-20 minutes. Your presentation SHOULD not last much longer than 20 minutes, and I do not believe you will be able to present all of the necessary content in much less than 10-15 minutes. Your grade will be based on your ability to manage this expectation.
3. You are free to manage how each team member contributes to the group, but you

are required to split the time allotted to each member evenly. Again, your grade will be based on your ability to manage this expectation.

1. I would like to see the following elements in your forecast:
2. Provide a very brief overview of your series and specifically discuss

why one would wish to forecast it. For example, please discuss what type of decision might be made as a result of the forecasting outcome.

b. There will be a holdout period that is used to compare actual data to

forecasted values. You will first want to define if there are any

deterministic variables that you will use prior to restricting your sample.

Once deterministic variables have been created, please restrict your

sample by excluding the last four observations.

c. Discuss whether or not your data appear to be generated from a

covariance stationary model. If a transformation is necessary, please

discuss which transformation you used and why. A unit root test will be

necessary for this part.

d. Again, please do not choose a seasonally adjusted series if you can

avoid it. Describe whether the following elements appear present in

your data:

i. Seasonality

ii. Deterministic trends

iii. Stochastic variation.

e. You will select a SARIMA model.

f. For the series your group decides to be most appropriate to work

with (which may be transformed as discussed above), provide a

correlogram plot of the series. Describe in detail which models you feel

are appropriate for the stochastic part. Estimate several models. As in

your last assignment, record the SIC/AIC values.

g. Perform diagnostic checks on your residuals. Provide a plot of the

correlogram of the residuals and describe why the fitted model is

appropriate.

h. Conduct your forecast and produce a graph that contains the out of

sample forecast for your chosen model with the 95% confidence

intervals about your forecast, along with the actual observations of your

series (which, as before, should contain a few pre-forecast period

observations). At this stage, please discuss how the forecast would

affect decision making and whether or not decisions were correctly

made on the basis of the eventual realizations of your data.

g. Compare the forecasting accuracy of your model to any other model

available, such as a vector autoregression or exponential smoothing.

i. In the last stage, please re-estimate your selected model for the entire

sample. Please provide a new 2-step ahead forecast for your series,

which as above, contains the forecast series and its confidence

intervals, along with several pre-forecast period observations for the

series being investigated. Please comment on how the forecast would

affect interested parties.

Other necessary elements

1. Please turn in your presentation (e.g. the power points) before the start of class

on May 2.

1. Please provide the final commands that you used in R, along with your data,

so that I can verify that your forecast was correctly generated. Please note that providing code that is clearly different relative to what you used to generate results will negative affect your results.

I am delighted to answer any questions you might have! I hope this proves to be a rewarding experience for each one of you.