

# ECO374 Essay: Main Task

- You will be given a part of a time series data.
  - Time periods  $1, 2, \dots, T$ .
  - It is real monthly data.
- You are asked to write a small essay in which you
  - 1 Identify the pattern of the data.
  - 2 Find the model that you believe capture the pattern best.
  - 3 Estimate the model.
  - 4 Make forecasting for 12 periods.
- Imagine that you work at a consulting firm or the research department at Bank of Canada...
- Deadline: end of April 10th
- Submission through Quercus, link will disappear after the deadline.
- Data's identity will be revealed after everyone has submitted their essay.

# Format Requirement

- You are required to submit three files: the essay (in PDF), and forecasts (in Excel), and your the code.
- You shall report your main results in your essay too (your estimates for the model, your 12 period forecasts...)
- The essay should in principle be no more than 10 pages
  - Including figures and tables.
  - Double space, 11pts font size.
  - Longer essay does not necessarily implies higher score
- All files must be submitted online through Quercus.

# Format Requirement

- Record your 12 periods forecasts in the excel file, from cell A1 to A12 of the first sheet.
- These 12 numbers are important for the evaluation.
- A computer program will be used to extract numbers from these cells to calculate your essay score
- Name your files as “FirstName\_LastName\_STUDENTID”, e.g. “Yuanyuan\_Wan\_1234567”.

# Grading

## 1. Basics: 10 points.

- the essay shall be complete in content: contains your model, estimation and forecasting.
- the essay shall be complete in structure: introduction, main part, and conclusion
- Anyone who makes reasonable effort is expected to receive most of (or all of) the 10 points

## 2. Skills and Performance: 5 points.

# Grading

## 2. Skills and Performance: 5 points

- The essay shall be well structured and coherent.
- Has strong and well supported arguments in model selection.
- Whenever possible, carefully exams the assumptions required by the model.
- Has clear explanation of the intermediate and final statistical results.
- Report both interval and point forecasts.
- You will lose skill points if you use wrong formula, or your final forecasts are inconsistent with the formula you use.
- Your forecasting has a small forecasting error (measured by SSE) compared to the class average.
- Other shining points.

# Grading

- Deadline: end of April 10th
- If you submit before deadline:

$$\text{Your essay score} = \text{Basic} + \text{Skills}$$

- If you submit  $m$  days after the deadline:

$$\text{Your essay score} = (1 - 20\% \times m) \times (\text{Basic} + \text{Skills})$$

# Some tips

- Avoid making claims without arguments or statistical evidences.
- You may want to include graphics to support or illustrate your points.
- You may also want to divide your essay into small sections: identification, estimation, forecasting...
- Numbers and explanations are both necessary.
- Methods: your choice. Could be any methods, as long as you provide a valid citation.
- Whenever you cite any results in literature, state the reference clearly:
  - Paper title, author name(s), journal name, issue number, Vol. number, year.
  - Only academic reference counts.

# Academic Honesty

- This is **not** a team projects: work on your own.
- Suspected cases of plagiarism will be passed to university authority.
  - Outcome could be very serious.