# Econometrics I

Instructor: Dr. Shiva
Empirical Project

## 1 Introduction

In Econometrics I, you became familiar with many concepts, such as different data structures, causal inference, and several statistical tools to answer economic questions. In this project, you are going to use those concepts in practice.

## 2 Structure

You should write your project report similar to a paper; specifically, it must include the following parts.

1. **Key Question**

   Possibly, the most crucial part of your project is your research question. You should state this question clearly and discuss why it is valuable to answer it. An interesting question may arise in different ways. You may

   - have an economic concern that has occupied your mind for a while,
   - identify a gap in an economic subject's literature, or
   - have a set of data that triggers a question in your mind.

2. **Data**

   You should have access to appropriate data regarding your question. Clearly describe the data you use in your project. For example, you should:

   - state the source of your data,
   - explain how you cleared it,
   - provide a summary statistic, and
   - draw some graphs to give some intuition.

   To find economic data, you may find the following sources helpful:

   - Statistical Center of Iran[1], a good source for cross-sectional data.
   - Central Bank of The Islamic Republic of Iran[2], a good source for time-series data.

[1] `https://www.amar.org.ir`
[2] `https://www.cbi.ir/`

- Federal Reserve Bank of St. Louis[3], a rich source of the U.S. and world-wide data.
- Tehran Securities Exchange Technology Management Co.[4]

3. **Literature Review**

   You should provide a literature review on the question you want to investigate. In doing so, be specific about the similarities and differences of your work with the literature. Reviewing the literature has many benefits. You will find out what kind of data you need, which techniques to use, and how to tackle different problems you may encounter in your project. Note that working on a question well answered in the literature is not that interesting. However, it is not worthless. For example, replicating a paper with a different data set (for example, Iranian economic data) and confirming its results or finding different ones can have a high value.

4. **Model**

   You should clearly state the econometric model you estimate and the assumptions behind it. Moreover, describe why this model makes sense, how this model helps answer your question, and what you expect. In estimating your model, you should provide a convincing discussion on why your assumptions hold. Finally, explain your regression results, i.e., the meaning of the parameters in your model. You may compare them with what you expected first and use them to give some intuition.

5. **Conclusion**

   Include a summary of what you did in your project as well as how you could improve it.

# 3 Final Remarks

1. All we expect you are to use the concepts you learned in this course. We do not expect that you provide flawless estimations (you are not writing a paper! You are warming up to do so.) Instead, we respect those who are honest, criticize their work and estimations, identify their projects' flaws, and try to tackle the problems they encounter.

2. You can do your projects in groups of up to 3 members. Larger groups are expected to deliver higher quality projects.

3. You have to submit a .pdf file and a Log File of the regressions you run.

4. The sections explained above have 10, 15, 20, 50, and 5 marks out of 100, respectively (they may change slightly).

5. Delivering a standard and neat report (similar to papers) with intuitive and simple tables and plots has 10 extra points.

6. Do not over-explain; write a concise report.

[3] `https://fred.stlouisfed.org/`
[4] `http://tsetmc.com/`