Econ 594: Applied Economics

Spring / Summer 2022

Research paper, progress report, and presentation

The main objective of the course is to have students write a research paper in empirical economics. In light of this, the aim of the lectures in May is to present applied econometrics material to provide specific tools (as opposed to general concepts) that can then be directly used in the summer research project. Since there is a limited number of lectures each week, students are expected to spend an important part of their time in May working on their paper project to have as much material as possible completed for the presentations that will take place in the month of June.

The goal of the students' presentation in June is two-fold. First, having to prepare a presentation provides a strong incentive to make substantial progress on the paper project in May and early June. It is indeed essential to have an early start in order to meet the final deadline for paper submission on July 29th. Second, the presentation is the ideal opportunity for students to get feedback from their peers and the instructor. In particular, after seeing the presentation, the instructor will be able to provide a good indication of how much extra work is required for the paper to be of the quality expected for a major MA research paper at UBC.

The rest of the document provides more detailed information and suggestions on the paper project. The project is divided in three phases. The topic of the paper will be selected and preliminary work completed, including a progress report, during Phase I in May. Phase II is the presentation that will take place in the first half of June. Most of the research work, including writing up the paper, will take place in Phase III (mid-June to the end of July).

PHASE I: PAPER TOPIC AND PROGRESS REPORT (MAY 2022)

As mentioned in the course syllabus, students in this section of 594 are expected to write an empirical paper using, preferably, cross-sectional or panel data. Accordingly, most of the papers tend to be in "micro" oriented fields. Of course, the first step of the project is to find a suitable topic. There is no single rule that can be followed for finding a good topic. But, clearly, even the best ideas will not yield much unless you also find a suitable data set. A typical approach for finding a topic that interests you is to first look at the existing --and preferably recent-- literature, through a variety of sources including:

- Syllabus of field courses you have taken research in the Winter semester
- Recent working papers. For example, take a look at recent papers on the websites of faculty members at UBC or at the NBER (http://www.nber.org/papers/)
- Take a look at recent issues of journals. Both general purpose journals (*Canadian Journal of Economics, American Economic Review, Journal of Political Economy, Quarterly Journal of Economics*, etc.) and field journals (*Journal of Labor Economics, Journal of Public Economics, Journal of Development Economics*, etc.) are useful places to look at.

- Some of the instructors in the field courses may have asked you to write a term paper or a research proposal. It is certainly appropriate to write a paper on a closely related topic you got interested in while working on a paper for a field course.

Once you have a good topic, you need to find a suitable data set for your project. Possible options include finding a Canadian data set for which you can reproduce an analysis done for another country (typically the United States) in an existing paper. Or perhaps you can use the same data (or an updated version of the data) used in another paper to see what happens when you use a different estimation method or a different underlying economic model (to test different hypotheses with the same data). Note, though, that a simple replication study of an existing paper is not a sufficient contribution for a 594 paper. That being said, first trying to replicate an existing study and then going beyond the study with innovations of your own can be a very effective way of writing a good empirical paper.

Data Resources:

There are a large number of rich data sets available on the internet. I explain below where to look for in the case of more standard data sets provided by data suppliers like Statistics Canada. In recent years several students have constructed their own data sets by "scraping" the web. This is a great way of obtaining cool data, though it typically involves some knowledge of Python.

For Canada, the primary source of data is Statistics Canada. Members of the UBC community have access to a large number of data sets through what is called the Data Liberation Initiative (DLI). Most of the data sets can be accessed by going to the Abacus Data Network at

https://abacus.library.ubc.ca/

and searching through the data sets available there. Data sets from providers besides Statistics Canada are also available there.

Another useful data tool is the Canadian Census Analyser available at:

https://resources.library.ubc.ca/page.php?id=521

You will find there Census data at a very granular geographical data (up the a census track). Information such as average income, fraction of immigrants, and average house prices is available.

A large number of other data sets are available for other countries. Two particularly useful places to look at are:

The NBER data collection: http://www.nber.org/data/

The ICPSR at the University of Michigan: http://www.icpsr.umich.edu/

I would recommend browsing through these data resources (or other resources) even if you don't yet have a clear idea of your topic. Many researchers get good paper ideas by noticing interesting data sets, and then going through the literature to see whether these kinds of information have been used in other studies. And, of course, please don't hesitate to drop by during my office hours to discuss these issues.

Note also that authors of empirical papers published in the *Canadian Journal of Economics*, the *American Economic Review*, the four *American Economic Journals* and many other journals have to post their data sets on a publicly accessible web site. It should be relatively easy to access data from recent papers published in these journals in case you plan to write a paper using more or less the same data. Some authors also make data sets available on their web sites.

All students should have a topic and a suitable data set by the end of May. Having a suitable data set does not simply mean listing a web link where the data set is available. By the time of the presentation, students should have preferably completed some initial processing of the data set to produce descriptive statistics on the main analysis variables. Please see me early on if there is any technical reason (e.g. data set not readily available on the web) why there may be delays in obtaining your data set.

Progress Report (due on May 27):

As a first step in evaluating research progress, students will have to prepare a 3-page report (about 1000 words) summarizing a key research paper related to the summer project, and discussing how the summer project will improve upon that paper. Examples of proposed improvements include using a new data set (for a different country or time period), focusing on different policies and outcomes, using a different research design or a new econometric approach, etc.

Structure of the report:

1. The first two pages of the report should summarize and evaluate a key research paper on the topic you have chosen for your summer project. Use the first page to summarize the paper by discussing *i)* what question the paper seeks to answer, *ii)* how it attempts to answer the question, and *iii)* what are the main findings. Next provide your own critical assessment of the paper on the second page of the report by discussing what you view as its key strengths and weaknesses.
2. The last page of the report is a preliminary attempt at explaining how you hope to go above and beyond the key research paper in your summer project. As mentioned above, examples of proposed improvements include using a new data set, focusing on different policies and outcomes, using a different research design or a new econometric approach, etc. All the better if you already exactly know what you plan to do. If not, it is fine to have a bit of a "wish list" explaining what you hope to achieve even if you haven't yet finalized all the details of your project.

PHASE II: PRESENTATION (FIRST HALF OF JUNE)

Each student has to present her/his project in the weeks of June 6-10 and June 1-17. A total of 30 minutes will be allocated to each student. Plan for a 20-25 minute presentation so that we have time for discussion. A detailed schedule of the presentations will be posted on Canvas at the end of May.

The grade for the presentation will be based both on the presentation itself, and the set of slides (Power Point, PDF, etc.) used for the presentation. Here's a suggested structure for the presentation

1. The project in a nutshell
    a. What is the question you want to answer?
    b. Why is it interesting?
    c. How are you going to answer it? (briefly)
2. Motivation/background
    a. Quick review of the existing literature
    b. What is missing in the literature (motivation for you own research)
3. Proposed empirical approach
    a. Underlying economic model (if applicable)
    b. Estimation approach/method
4. Data and preliminary results
    a. Description of data set
    b. Descriptive statistics computed from the data
    c. Preliminary results (if available)
5. "TO-DO" list for the next month and a half.

Ideally, the presentation should contain all the elements of a "first draft" of the paper. You will then be able to refine the analysis and write up the paper in the second half of June and in July.

PHASE III: WRITING THE FINAL VERSION OF THE PAPER.

The length of the typical paper is expected to be around 20-25 pages (double spaced), including tables and figures (supplemental material should be included in an appendix). As in the case of papers published in scholarly journals, you should structure the paper as follows:

1. Abstract

2. Introduction

3. (optional) Literature review. Should be short and simply help provide the context for your own research contribution. This can sometimes be replaced by a slightly longer introduction where you explain what has been done in the past and what is new about your study.

4. Section(s) explaining the research design/econometric methods, discussing data issues, and presenting the underlying economic model. The latter doesn't always apply, but you should always present at least a key estimating equation.

5. Section(s) presenting the key findings.

6. Short conclusion.

I encourage you to use as a guide papers published (or forthcoming) in the journal *American Economic Review: Insights* (https://www.aeaweb.org/journals/aeri). There is a 6000 words / five exhibits (tables and figures) limit in *AER: Insights*, which more or less corresponds to a 20-25 pages paper (double spaced). These shorter papers are very valuable scholarly contributions provided that they:

1. Get right to the point, i.e. use a linear structure to avoid constantly losing valuable space on asides that do not contribute to the main argument.
2. Only present a limited number of tables and figures that illustrate the key features of the empirical findings. It is easy to generate endless sequences of numbers but your duty as a researcher is to "digest" all the numbers yourself, and only present to readers a limited number of tables and figures that support your points in the clearest possible way. You can always put additional material in an appendix (not part of the 20-25 pages count).

Please also keep in mind that the grade you will get depends on the quality of the empirical analysis (and the writing), and **not** whether you get t-statistics above 2. There is an unfortunate misconception among many students (and often more seasoned researchers…) that an empirical paper is a "failure" if you don't get any significant effects. What counts for your research paper is do things right, report the results as clearly and honestly as possible, and draw appropriate conclusions that will obviously depend on the size and significance of the estimated effects.

The final version of the paper is due on Friday July 29, 2022 (before midnight…). Please upload the paper in Canvas.