

Economics 706 Fall 2018
Research Paper
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All students will write a research paper. Students can work in teams of 1, 2, or 3.

For most students, the paper should be closely related to a published research paper. It can either be an extension of that paper, or a similar application using a different data set. In some cases, we will allow original research papers, but you will need permission ahead of time to ensure feasibility.

Students will first submit a proposal (see below). Based on the proposal you will be assigned to one of the three faculty teaching the course. This faculty member will serve as your advisor on the project.

Important dates:

Proposal due date:	October 24, 2018
Paper due date:	December 21, 2018

Appointments:

For computational advice, you should first meet with one of the two course TAs.

For research advice, you should meet with your assigned faculty advisor. Since such meetings can be lengthy they will be held outside of regular office hours, by appointment.

Proposal:

Your proposal should be a one-page description of your proposed research project. You should describe your problem or question, the paper or papers on which your project is based, the data you will use to answer the question, and possibly the econometric methodology.

The most critical issue for a successful project is **data**. Many excellent ideas are infeasible projects as the needed data is not readily available. In your proposal, you should be as specific as possible about the data source, availability, which variables are measured, and sample size. Ideally you will have the data in hand at the time you turn in the proposal. One warning, many data sets have public use versions which are easy to get and restricted versions that take more time. You should verify that the variables you need are available in the public use version.

Letters of Recommendation:

If you are asking for a letter of recommendation, the paper should be submitted at least 10 days before the letter of recommendation is due, to allow your faculty advisor to read your paper and prepare your recommendation letter. You may submit a revised version of your paper at the due date if you wish.

Economics 706 Style Guidelines:

In reading the papers, we pay considerable attention to style (correct spelling and grammar, clear exposition, good organization). So, too, do most people: reports that are difficult to read routinely get ignored, even if they contain good ideas. Thus, it will pay to develop the habit of working hard to craft a clear explanation of your ideas.

Many of the following suggestions are standard good practice. Others are matters of taste.

1. In writing up a research report, one should have an audience in mind. We suggest that you take the audience to be your fellow students in this course. They'll know most of the relevant economic and econometric theory, but won't know your data set or your model.
2. Include a cover page with the following information: Title; date; your name; your e-mail address; the word "Abstract"; an abstract of 100 words or fewer. If you have acknowledgments to make (thanking a fellow student for helpful comments, for examples), put these on the bottom of the cover page. The text of the paper begins on the next page.
3. Your paper should be divided into sections, to help guide the reader. Recall the basic structure of a typical paper is: introduction; specification of the model; presentation of results; discussion; conclusion. You may not have exactly these five sections. For example, you may have an additional section that reviews the literature. Or you may combine presentation of results and discussion into a single section. But any paper that is 10-12 pages long will surely benefit from being divided into sections.
4. Number the pages. No plastic covers or binders, please.
5. In the introduction, present an overview of your paper and summarize your findings. In the conclusion, give suggestions for future research.
6. Be explicit about your data set. State the sample size. For time series, state whether the data are monthly, quarterly or annual, and whether or not they are seasonally adjusted. State the units of measurement. For example, if "income" is a variable, state whether it is measured in current dollars or constant 2008 dollars, and if it is per capita, say so. For data in logs or log differences, you will usually want to multiply by 100 so that the units will be percent or percent change. Also explain the choice of the sample: why does it start in a given year, or you use only a cross-section from a given year instead of a panel, and so on.
7. You will want to include a plot and/or a table with basic statistics (means, standard deviations) of the data.
8. Number the equations. You can number the equations by section, if you have sections in the paper. That is, the third equation in section 2 can be numbered 2-3, the second equation in section 4 can be numbered 4-2, etc., if you prefer doing this to numbering sequentially through the paper.

9. Tables:

- a. Number the tables, and on each include a descriptive header (“Means and Standard Deviations of Data,” or “Variance Decompositions,” for example).
- b. Tables may appear in the text in the appropriate place, or at the end of the paper.
- c. Tables should not run over page boundaries, unless they are too long to fit on a single page. That is, if you include a table in the text, you should insure that you place it so that it does not run from one page to the next.
- d. Make every effort to make each table self-contained, even though this will require you to redundantly present information that is also stated in the body of the paper itself. This is now the standard in the profession and you should look at a paper published recently to see how much detail is included in tables.
 - i. In notes at the bottom of each table, define the symbols that are in the table, or give a precise reference to where the definition may be found. It is not adequate to simply state “definitions are in the paper” or “see section 2 of the paper for definitions”. Instead say something like “Variable definitions: y =log per capita income in 2012 dollars, r =interest rate on 3 month Treasury bills (end of quarter),” and so on. Alternatively, for many of you it might be best to include a table that defines the symbols, and in subsequent tables say “see Table x for variable definitions” where “ x ” is the number of the table that defines the symbols. (You will also present such information in the text itself.)
 - ii. In tables that present regression results, include a note that describes the estimation technique (“The probit was estimated by maximum likelihood, assuming normality,” for example.) (You will also present such information in the text itself.)
 - iii. If a given set of variables appears in more than one table—as is often the case—there is no need to repeat the variable definitions. Instead one of the notes to (say) Table 2 can say “Variable definitions are given in notes to Table 1.”
 - iv. Be sure to include the name of the dependent variable somewhere in the table.
 - v. When possible use words to describe the variables in your model. For example, if years of schooling is a regressor in your model write out “Years of schooling” not “YRSCH” if that is the name of the variable in your statistical software.
- e. In all but the simplest tables, number the rows and columns. When the text references a result in the table, cite the row and column: “the t-statistic is 2.12 (row (2), column (4)).”

10. Figures:

- a. Number the figures, and on each include a descriptive header (“Parental Income versus SAT Score,” for example).
- b. Figures may appear in the text in the appropriate place, or at the end of the paper.
- c. Figures should not run over page boundaries, and must always fit on a single page. That is, if you include a figure in the text, you should insure that you place it so that it does not run from one page to the next.

11. Reporting of estimates:

- a. Do not report more than 3 or 4 digits. Example: report 0.412, not 0.4117678.
- b. Avoid long strings of zeroes at the beginning of a number. You can always retroactively rescale variables and coefficients.
- c. Report standard errors, not t-statistics. Standard errors belong in parentheses under the coefficients. Example: Report

0.412
(0.146)

not

0.412 0.146

12. Avoid the use of elaborate acronyms to denote variables (like AUSGDP_12 for Australian GDP in 2012 dollars). They are rarely helpful to the reader. A single letter, usually with a subscript, ordinarily suffices and is easier to read when used in equations.

13. References:

- a. All references cited in the paper should be listed in a bibliography at the end of the paper. Cite these in the text as Walter (2015) or Walter (2015, p361).
- b. When you reference a specific result, such as a point estimate of a parameter, or a theorem that establishes a particular claim, give the page number, such as Walter (2015,p361). When you reference a general result, for example noting other papers that have studied topics similar to yours, no page number is needed.

14. Computer code: You do not need to include you programs in the paper. We should be able to figure out what you did without seeing it explicitly.

15. Miscellaneous reminders on terminology:

- a. Hypotheses (not tests) may be “accepted” or “rejected.”
 - b. Hypotheses refer to the magnitudes of population parameters, not estimates, and not to statistical significance. The word “significant” should not appear in the statement of a hypothesis.
16. Econ 706 papers usually take as their starting point a working paper or published paper by professional economists. Your own paper should be self-contained (even though we may ask you to turn in a copy of or link to the basis paper). As well, you need to be crystal clear about what you have done versus what is in the published paper. If you obtain your data from the authors of the published paper, for example, you must explicitly say so, even though you will also need to describe the source used by the authors of that paper.
17. It is a violation of scholarly ethics to repeat a passage, even a sentence, from another source without putting the passage in quotes and citing the source: the usual publication details in case of printed matter, the URL and date in the case of web-only material. This rule applies even when you are describing dreary facts: if you repeat a description from another paper of how data were collected, or the steps in computing an estimate, you *must* put the passage in quotation marks and cite the original source.