

General Guidelines for Projects in Econ 150

The Projects in **ECON 150** set it apart from most other introductory courses in statistics. They offer an opportunity to use the statistical ideas creatively to explore topics of interest to you. Because you are working in Excel, you have powerful tools both to explore your evidence statistically and to present your analysis in an effective way.

Topic

The choice of topic matters. Do something original and clever. Issues can be personal, drawn from your own life, or address broader issues. Many students observe price or other information on the World Wide Web. Some students conduct interviews to gather data. In the later projects in the course, published data from the library or World Wide Web are better. The introduction to your project will describe the topic and explain why you are interested in it.

Introduction

Think of what your reader will see on opening your project. Write a compelling introduction to sell interest in your idea. The introduction should motivate the topic. For example, you might explain how you came to be interested in the topic. Perhaps you will relate the topic to a policy issue. What is it that you expect to learn?

State a hypothesis that may be confirmed or refuted by the project. Explain why you think your hypothesis might be true. You might use your knowledge of economics or your sense of what makes things happen in the setting you are studying as the basis for your hypothesis. Your reasoning here will help sell interest in your study.

Literature

Compare your method and results to similar investigations reported elsewhere if possible. The Heard Library offers use of a number of electronic indices that may identify studies on many issues you might study. Here is the URL for links to databases.

<http://www.library.vanderbilt.edu/heard/edatabases.shtml> scholar.google.com links to academic literature in many disciplines. EconLit is the premier tool for access to what economists have written. ProQuest provides access to a more popular literature including magazines and newspapers. PAIS indexes a wide range of documents on most policy issues. A second paragraph or two in your project introduction will describe briefly how others have explored the issue and how your project differs. For more information on the economics literature, please see:

<http://www.vanderbilt.edu/AEA/students/Econliterature.htm>

Ethics

In gathering data, it is important not to endanger yourself or others. It is important not to violate the privacy of others without their informed consent. Observations you make unobtrusively in a public place are ethical. Interviews with fellow students must respect their dignity. Do not ask questions about illegal behavior without prior approval from your instructor. You could be compelled to reveal your sources in a court of law. A third paragraph of your project will explain where, when, and how you gathered your original data. When you use data gathered by others, carefully reference the source so that your

reader can find the data for possible further exploration. Failure to document your sources is plagiarism.

Presentation

The quality of presentation matters. Explain each of the steps of your analysis briefly, highlighting important or surprising elements of your investigation.

Carefully document your method and sources. If you get data from the World Wide Web, give the name of the agency that presented the information and the URL. If you use information from the library, give the standard bibliographic citation. If you do your own observation, describe the location, time, and circumstances of your observation. Your description should allow your reader to replicate your work. All of your sources should be as current as possible.

Write a thoughtful conclusion that draws on your analysis in specific ways. Include numbers in the conclusion to illustrate your main points. Explain the wider implication of your project. Explain why someone should care about your investigation.

Write clearly and succinctly. Use topic sentences and make sure your sentences are in the active voice and sing with good verbs. Use Excel's spell check function. Read your writing out loud to yourself or your teammate to make sure that it says what you mean it to say.

Please use large size fonts: 12 points are a minimum. Make the blocks for the text somewhat larger than the text they hold. Text that looks good on your computer may not fit in the block that opens on your reader's computer. Consider using the "AutoShapes—Callouts" on Excel's drawing menu to offer concise comments on specific elements of your presentation.

Avoid verbal diarrhea. Don't make extraneous comments or write at too great a length. Make your point and move on.

Organization

Organize the project using separate worksheets for each element. Start with an introductory sheet, use a separate worksheet for each key element of the analysis. Conclude with a worksheet of summary and commentary. The latest version of Excel offers a page layout view that allows organizing a worksheet into pages.

Use the Edit menu to add or delete worksheets. You may reorder the worksheets by dragging the tab at the bottom of a worksheet to whatever place in the tab sequence you like. Double-click on a tab to type in a new label on the tab. Use the Edit Delete Sheet command to delete unneeded worksheets.

Avoid putting too much on any one worksheet. Use arrows to point to elements that won't be on the worksheet when it first appears. Flag remote elements by saying "The

mean is at cell G55” or the like. (Alternatively, consider using buttons as explained below.)

Design

Excel offers wonderful possibilities for using color, graphics, photographs, even sound and video, to illustrate your project. (Caution: Your reader’s computer may not handle these as well as yours does.) Please use these capabilities in an elegant, understated, careful way. The wizardry should not overwhelm the message. Emphasize the statistical evidence. Do not use decorative elements to the point where they undermine the primary goal.

Avoid excessive use of color. To remove gridlines, go to “Preferences” and uncheck “Gridlines”. A white background gives the highest contrast. For the text, using a dark color (even black) gives better contrast. Choosing black for the text and a single dark color for headings gives a clean, professional look.

Including a graphic on the opening page can help sell a topic but too many graphic elements may befuddle the reader into thinking the presentation is about the graphics. Don’t let “eye candy” get in the way of your main points. Use decorative graphics sparingly so as to maintain focus on the statistical evidence.

Charts

Appropriate charts enhance most statistical projects. Consider including histograms, frequency polygons, or scatter plots in every project whether the assignments call for them or not. Put several (but not too many) polygons or scatter plots on a single chart to show contrasts that make the statistics easier to understand.

Buttons (Optional)

Buttons are an alternate way to move a reader to a different part of a worksheet or to a different worksheet. To add a button to a spreadsheet, choose “View—Toolbars—Forms” to open the Forms toolbar. Click on the rectangular “button” tool and drag out a rectangular button on the worksheet. Choose the “Record macro” option in the dialog. Proceed to do the things on the spreadsheet that you want to occur when a reader clicks the button. Then click “stop record”. Excel will repeat the steps you executed on the spreadsheet during the “record” mode each time a reader clicks the button associated with the “macro” you recorded. To edit the button, “control-click” the button, retype the text, change its size and color, drag the button to a new size or location. If a button doesn’t work properly, control-click it, clear it, and start over.

Conclusion

Having reached the parapet, you can look back over the project from on high, point to the main conclusions, highlight strengths and surprises, discuss weaknesses and limitations, and relate the project to the larger scene. What did the project accomplish? Was the hypothesis stated in the introduction confirmed or refuted? (Caution: Statistics never prove anything, there is always some alternate explanation. So, use words like “the evidence here supports the hypothesis.” How might you have executed the project

differently to make it more effective? What follow-on investigation might explore a further issue? What is the principal implication of the project? Who might use the result for what purpose? Be sure to put the conclusion in the context of the motivation given in the introduction.

Gallery

Each term we post some interesting projects to a gallery on the World Wide Web to inspire future students. The gallery projects are good projects, but they may have flaws. We hope your projects will be better in ways that you think are important and valuable.

The Great Project

The best projects are those that you and your readers want to share with others, your parents, potential employers, and the world at large. Some students whose projects appear in the Gallery refer to their URLs on their resumes. Some students have found that they can do work just like that in a project for their employers or on internships. The great project then is one that is fun to do, makes compelling reading, and engages the imagination of others.