

Final Report for the 2018-19 CTL Teaching Fellows Program  
"Rethinking Economics 101"  
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**COURSE:** Basic Economic Principles. I have spent this past year working on how to "rethink" Economics 101, from choosing the appropriate textbook, to developing new assignments in order to enhance student engagement in the material and strengthen students' quantitative reasoning and writing skills.

**PROJECT TIMELINE:** I envision this project as a two-year project. During this past year I worked with my colleagues in the CTL teaching fellows program to explore the different types of activities and assignments that would help me to redesign the course.<sup>1</sup> I have also reviewed alternative textbooks and have read on how other economists use evidence- and problem-based learning in Economics 101. Over the summer I will draft a new syllabus for the course, and next year I plan to teach the course each semester. Based on this teaching experience I will make any needed revisions before finalizing the outline for the course.

**BACKGROUND AND STARTING POINT FOR THE PROJECT:**

**A. Student population:** roughly 50% of the Trinity student body enrolls in Economics 101, and most often during their first year of study at the College. Thus, any given section of Economics 101 attracts a group of students with a wide variety of academic interests. One of the challenges in teaching this course, therefore, is to find the right pedagogical approach and content to the course so that all students in the class – those who go on to major in economics and the majority who do not – can engage actively and meaningfully with the material.

**B. Initial Goals of project:** to rethink **what** material is presented in Economics 101, and **how** that material is presented. More specifically, the themes I explored in rethinking the course are the following:

- i) The **list of theoretical ideas** that are introduced versus the ones that are privileged. Traditionally, in Economics 101 perfectly competitive markets and rational individuals are seen as the benchmark and everything builds from there. That means other theoretical approaches and assumptions are typically seen as secondary, or in reaction to the privileged position of perfect competition and rationality. Should this point of departure for Economics 101 be rethought in light of how real-world economies operate?
- ii) The **sequencing of the material** in the course. Typically, in Economics 101 theoretical models are introduced, carefully developed, and then applied to specific problems. Should this sequencing be turned around? What might happen if each major section of

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<sup>1</sup> Many thanks to all the other CTL teaching fellows – Diana Aldrete, Janet Bauer, Lauren Caldwell, Dario Del Puppo, Mary Dudas, Molly Helt, Kevin Huang, Lauren Lazarus, Nicholas Marino, and Diane Zannoni – for their many suggestions over the past nine months, and to Sean Cocco and Dina Anselmi for organizing this year's sessions.

the course begins with a question (i.e., an important contemporary economic problem or issue) and then reviews the evidence on that question? The next step would be to introduce a model, or set of theoretical tools, to help students understand and explain the data. This would be followed by a critical evaluation of the theory: Does it provide insight into our initial question? Does it explain the evidence? Focusing on problem-based learning can stimulate student interest in the material and a willingness to work through the (sometimes) difficult theoretical models.

iii) Lastly, I would like students to work with **real data sets**. I experimented last year with introducing data on income distribution in the U.S. and asking students to work with the data to answer an essay question. Changing the sequencing of the course material may allow for better integration of empirical analysis with the major sections of the course.

**C. Recent Work in the Field:** Inspiration for the project comes from both my own experience and the recent collaborative work of economists from several different countries. The name of this group is *CORE*. In 2016 the group launched a new online, open-access book, *The Economy*, with an affordable hardcopy available. The teaching approach can be summed up as: “The method is to ask interesting questions first and then to introduce models that help to answer them. Standard tools such as constrained optimization are taught by showing how they give insight into real-world problems. Economics as a discipline is set in a social, political, and ethical context in which institutions matter.” The textbook includes real data sets that can be downloaded for use in class or as homework assignments. Appendix one provides a comparison of material covered in *The Economy* with that of a standard textbook.

**D. Preliminary Questions** with which I began the project:

i) What should students be doing outside the classroom, both in preparation for class discussion, and in applying the material afterwards? How should I rethink student engagement given my above goals?

ii) What could I eliminate from the present content of the course to make room for the proposed changes in the course, without putting students at risk who wish to go on in Economics? (Economics is a hierarchical discipline and thus certain material would need to be covered in order to ensure students are prepared for their upper-level theory courses.)

## INTRODUCTION OF TWO NEW WRITING ASSIGNMENTS

**A. Everyday Life, Real-world Problems Assignment.** For the first two sections of the course, I will take the lead by laying out the initial set of economic problems that we will use to motivate our work on microeconomic concepts and models. Then, near the end of each of these sections, students will be asked to take the lead and pose their own questions to be answered by

applying the economic concepts (or models) that we will have just learned in class. More specifically, the assignment will ask each student to do three things:

- i) Pose a question based on something they observe around them or an everyday phenomenon they experience.<sup>2</sup>
- ii) Provide an answer by applying one of the theoretical concepts or models introduced in class.
- iii) Compose their response with a non-expert audience in mind, i.e., someone, such as a friend or family member, who has never studied economics.

Why are these three requirements important, and what does the assignment accomplish?<sup>3</sup>

Often in Economics 101 students struggle with connecting the basic concepts to actual events or everyday experiences. They do not see the relevance of the more theoretical material for understanding the world around them. To address this problem, I will ask them to start with something familiar – i.e., something close to their own lives – and to examine it as an economist would. In this way, the assignment asks them to move from simply remembering concepts (or a model) to *using* those concepts to *uncover* an explanation. This not only builds their confidence, but also consolidates their learning. Moreover, because students are working with something they are already familiar with and are explaining the material to another novice, they can more easily take control of the material. The target audience means that they must take the more abstract material and put it into their own words, without relying too heavily on the more technical explanations in the textbook. This deepens their engagement with the subject matter.

**B. Quantitative-Writing (QW) Assignment.** In the final section of the course, I will step away from taking the lead in posing the initial questions. Instead, I will start by asking students to explore a real-world data set on U.S. macroeconomic performance. The goal is to develop a set of exercises through which students can learn how to “read,” interpret, analyze, and tell a story with data. In the end, students will be asked to present an evidence-based argument and defend it by identifying and communicating the meaning behind the data. This set of exercises will lay the groundwork for our macroeconomic model-building.

**Resources for Designing a QW Assignment.** Carleton College has an excellent [teaching module on quantitative writing](#). It defines QW as “the written explanation of a quantitative analysis” and explains:

A good quantitative writing assignment engages students with *an open-ended, ambiguous, data-rich problem requiring the thinker to understand principles and concepts* rather than simply applying formulae. Assignments ask students to

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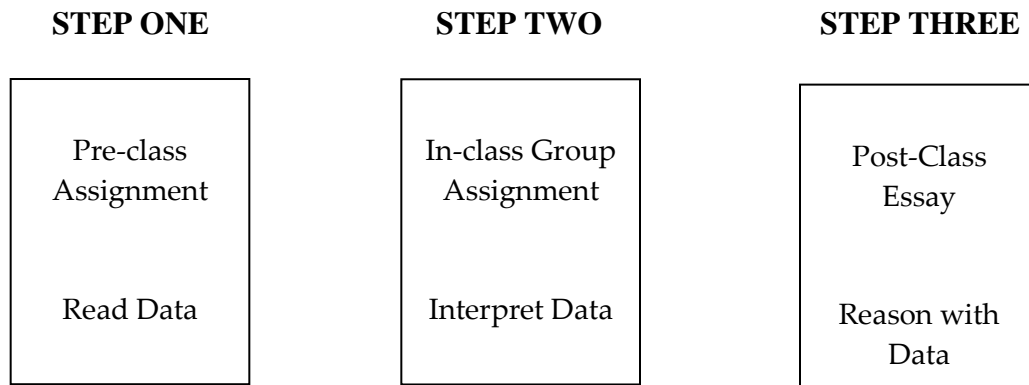
<sup>2</sup> An example of the type of question students may ask: “Why, when the price of cocoa increases, does my favorite candy bar shrink in size instead of its price going up?” Or, “Why are roundtrip fares from Hawaii to New York higher than the equivalent fares from New York to Hawaii?” Robert Frank “The Economic Naturalist Writing Assignment,” *The Journal of Economic Education*, 37 (1), pp. 58-67. (The second question is based on one of Frank’s examples.)

<sup>3</sup> Ibid.

*produce a claim with supporting reasons and evidence rather than 'the answer.'* Such “ill-structured problems” thus differ from writing assignments that lack a quantitative dimension as well as from “story problems” in math courses [which assume one correct answer]. Quantitative writing assignments can take *a variety of forms, genres, and complexities*. [Emphasis added.]

The module is organized into four sections (the what, why, and how of QW, followed by a section containing QW examples from 19 different disciplines). It concludes with a list of references for further reading.<sup>4</sup> Beginning with these resources, I developed a template for QW assignments that would match my own goals for rethinking Economics 101.

**Template for the QW Assignment in Economics 101.** Most students struggle with reading and analyzing data – often they do not know where to begin. With this in mind, my goal was to break the assignment down into a series of steps so that students could begin with answering more straightforward questions (which focus on identification, comprehension and explanation of data); learn collaboratively with their peers as they move to more open-ended questions that require interpretation of data and that open the possibility for disagreement; and, finally, develop their own evidence-based argument that relies on the analysis of data and that communicates the right amount and level of information for their targeted audience.<sup>5</sup> As students move through these steps, they would engage in conversation and receive feedback from both their peers and me. This sequence can be summarized as follows:



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<sup>4</sup> In one of our CTL sessions this past year, each teaching fellow presented their own ideas for a QW assignment for one of their courses. The samples from the Carleton website helped to spark discussion and generate ideas for the 10 different disciplines that we, as a group, represented.

<sup>5</sup> Appendix Two provides a rough draft of the assignment I intend to use in the final section of Economics 101.

## **CHALLENGES**

Preparing students for the challenge of articulating their own questions and developing their own arguments will require my providing lots of examples – first, in our “low-stakes” class discussions and, secondly, as part of the take-home, graded problem sets. Moreover, the examples will need to be sequenced (creating a bridge from one level of assignment to the next) so that students can use their in-class learning to tackle their homework assignments and gain a sense of confidence in their abilities to “do economics.”

## Appendix One

The authors of the *CORE* economics textbook, *The Economy*, have constructed a useful chart that compares how a traditional (or standard) economic principles textbook structures the material with that employed in their new textbook.

Standard Principles Textbook	<i>CORE's The Economy</i>
Part 1. What is economics?	Unit 1. The big questions about the economy
Part 2. Supply and demand	Units 2–3. Economic decision making
Part 3. The production decision and factor markets	Units 4–6. Economic relationships and interactions
Part 4. Beyond perfect competition	Units 7–10. Markets
Part 5. Microeconomics and public policy	Units 11–12. Market dynamics, how markets work and don't work
Part 6. Long-run growth	Units 13–15. The aggregate economy in the short and medium run
Part 7. Short-run fluctuations and stabilization policy	Unit 16. The aggregate economy in the long run
Part 8. Macroeconomic applications	Capstone units 17–22

## Appendix Two

Below is a rough sketch of the Quantitative Writing assignment that I will use at the beginning of the final section of the course. The assignment is broken down into three steps, following the template laid out above. The final step in the assignment asks the students to build an argument supported by data, and to decide how to communicate that argument to a targeted audience. It forces them to consider alternative points of view, weigh the relative weaknesses and strengths of different interpretations, and determine the amount and type of information that would be appropriate for their audience's needs.

### ASSIGNMENT:

Read the handout on U.S. business cycles by Christina Romer, a National Bureau of Economic Research (NBER) economist and professor at University of California, and the textbook chapter on "Introduction to Macroeconomics." Please also take some time to carefully examine the chart on U.S. business cycles published by NBER that was distributed in class on Friday, along with the accompanying description on how to read the empirical information presented in the chart. This material provides you with three sample questions and instructions on how to find the answers to those questions in the data. Use these questions to test whether you are reading the chart correctly.

### STEP ONE: WORKING WITH THE HISTORICAL DATA ON US BUSINESS CYCLES. (TO BE COMPLETED BEFORE WE MEET AS A CLASS.)

The NBER chart covers 150 years of U.S. economic history. During this time period, the U.S. experienced 33 business cycles. Take one business cycle of your own choosing. Identify its peak and its trough. What are the beginning and end dates of its expansionary phase? Calculate the same (i.e., start and finish dates) for its contractionary phase.

- A. Now find the shortest business cycle in U.S. history. What was the date of its peak? Its trough?
- B. Find the longest business cycle. What are the beginning and end dates of this cycle? What was the length of its expansion? The length of its contraction?

[NOTE: In this step, all the questions have one correct answer, and they all focus on whether the students can correctly **read** the chart.]

### STEP TWO: IN-CLASS GROUP EXERCISE.

Working in groups, come to a consensus as to which of the 33 business cycles in U.S. history is the "worst" business cycle. Explain your choice. In your explanation, identify the criterion (or criteria) you are using to rank business cycles.

- A. What other information would help you to determine which business cycle is the most severe? Explain how and why this additional data would be useful to you.

[NOTE: In this step, students are faced with more ambiguous, open-ended questions. They must identify the criteria they are using in making their decisions, and decide what other macroeconomic data may be helpful in determining the severity of a business cycle. There is room to arrive at different conclusions based on each group's interpretation of the data.]

### STEP THREE: ESSAY ASSIGNMENT TO BE COMPLETED AFTER CLASS.

Now consider the information at the bottom of the NBER handout on U.S. business cycles. This section of the handout provides two sets of data:

- i) The **average length of a business cycle** over the **entire historical period** (covering 33 business cycles). Three pieces of information are provided: the average duration of the contractionary phase of a business cycle, of the expansionary phase, and of the full business cycle.
- ii) The **average length of a business cycle** for each of **three sub-periods**: the period up through WWI, the interwar period through WWII, and the post WWII period. The same three pieces of information are provided for each sub-period.

Using these data, please answer the following question: Has the performance of the U.S. economy changed over time as indicated by the behavior of its business cycles? Please explain carefully. Be sure to state your claim (yes or no) and defend your answer by using the empirical evidence. Your intended audience is another student in Economics 101, who has just learned about business cycles in their class, but has not been introduced to any of the empirical data on the U.S. economy. They are curious to learn more about the history of the U.S. economy.

You are welcome to include a visual presentation of the data in your answer. (A visual presentation can help to communicate your message.) Your essay will be evaluated based on its persuasiveness: i.e., how well your claim is supported by the data you present, and how well you explain your answer to the intended audience.

[NOTE: In this step, students must respond to an open-ended question. They must state a claim and defend it by reasoning with data (the very data they will have learned how to "read"); they must communicate the *meaning* of the data. In the end, there can be more than one right answer, and the key is whether a given answer offers a clear exposition that convinces the reader of the proposed narrative.]