



TeachECONference2021 Panel: Best Practices and New Ideas for Teaching Econometrics – Q&A

In this document we summarise the discussion around the topics that arose in the Zoom Q&A and chat. The six presenters have jointly contributed to this write-up which we hope is useful to those who attended and those who are picking up the ideas at a later date.

Panel

Chair: Douglas McKee (Cornell University)

Speakers:

- Joshua Angrist (MIT)
- Jörn-Steffen Pischke (LSE)
- Theodore Svoronos (Harvard Kennedy School)
- George Orlov (Cornell University)
- Tanya Byker (Middlebury College)
- Amanda Gregg (Middlebury College)

Teaching Econometrics through Empirical Examples

Speaker: Joshua Angrist (MIT), Jörn-Steffen Pischke (LSE)

Data-Driven Teaching

Speaker: Theodore Svoronos (Harvard Kennedy School)

Q1) One issue I face with my students (this is after taking a yearlong metrics course) is that their first reaction to any data is to run a regression, without thinking very much about the mechanisms/ model. What would you suggest we do in metrics training to address this?"

Jörn-Steffen Pischke: Spend a lot of time in the course on how and why we use particular econometric tools. A thought I have had about this type of problem but something I haven't tried is to give the students a simple but substantive question to solve at the beginning of the course before they have learned any econometrics (these days it could be something about covid). Then confront them with the same question again at the end of the course. Are they getting better



answers with the tools than without? Might be a good way to reinforce never to leave behind intuition and thought.

Q2) How effective Teachly for a large classroom?

Theodore Svoronos: We've seen Teachly being used in class ranging from 15 students to 100. Above that, it can become difficult to keep track of who participated if it's a course with a lot of discussion. However, if it's not an especially discussion-heavy course, it's more plausible to track participation. I suggest having some way to say the person's name – either by having them say it or by having students use name cards that you say when you call on them – and a fixed seating chart can be helpful as well. The benefits of Teachly in larger classes are particularly apparent; it's difficult to get to know your students' interests and become aware of participation biases in such a large environment, and Teachly can help to mitigate both. Even if you feel that you cannot fully use Teachly given constraints of teaching staff etc., I'd recommend using at least part of it - for example asking students to fill out their profiles that you can search and browse to learn about them.

Econometrics Classroom Activities

Speaker: George Orlov (Cornell University)

Q1) In Problem-based Learning students are never told the correct answer--it is constructed and students understand that they need to work in order to get to a solution. Do students start learning that they will eventually get told the answer, and, if so, how do you keep the motivation to engage with these activities?

George Orlov: Students know that they will receive the solution from the beginning. However, it does not prevent them from engaging with invention activities when working in their small groups. This is where well thought-out scaffolding comes into play: it helps students progress through the activity by breaking the activity and the path to the solution into smaller, though challenging to attain, goals. Observing students over multiple semesters, once the worksheets and scaffolding were sufficiently tweaked and improved, we have not seen students simply sitting waiting for the solution to be handed to them when invention activities were used in class.



Interactive Web-based Simulations to Teach Econometrics: Making Abstract Concepts Tangible

Speaker: Tanya Byker (Middlebury College), Amanda Gregg (Middlebury College)

Project Link: <https://amandagreggeconomics.com/statistics-simulations-project/>

Q1) I see many of us are STATA disciples. What do you think about the trend towards R? Do you think we should teach students to use R due to the free access, the growing community to do econometrics on R and superb graphs? Is it similar to the shift of Word vs LaTeX?

Amanda Gregg: This is a tough call and an ongoing conversation in my own department. I'll stop short of weighing in on the "Stata vs. R" wars. I'm still using Stata in my classes, but I'm moving more in the direction of teaching students some general programming principles (for example, discussing "pseudocode," i.e. the objectives and processes underlying a piece of programming) so that students can adapt more quickly across programs and languages.

General Questions

Q1) In government people often used quite simplistic methods (OLS) because people they work with or for understand it; should we then spend less time training students to understand when it may be appropriate to not use the more complex/academically accepted methodology?

Jörn-Steffen Pischke: At the end of the day, economics is an academic discipline, not a vocational one. We don't have to pretend that students will use everything we teach them but it's good to expose them to principles and ideas in the discipline. Econometrics has so many touch points with any type of quantitative analysis that they are bound to find some things useful, especially if we teach in an applied, data driven way. If a student can later explain to a co-worker that OLS isn't a good solution for a problem at hand that's already a success.