

Economics 43810: Explaining an Unequal World: Empirical Methods in Development

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Office hours: Wednesday 3.00-5.00 pm or by appointment

Office hours location: JNH

Class times:

T-TH: 12.45-2.00 pm (Section 1)

T-TH: 2.20-3.35 pm (Section 2)

Course Overview: This advanced undergraduate economics course will provide a broad introduction to development economics with an emphasis on the application of econometrics. Each class will typically focus on a single research paper intended to survey the diversity of research in modern development economics. We will begin with a quick review of applied econometrics. Thereafter, the course is structured chronologically: we will first consider the role of the past – through history, culture and geography – in explaining the present incidence of poverty. We will then briefly cover neoclassical growth models and review recent empirical work that addresses labor, credit, and land market failures, government and the role of technology in explaining poverty. Finally, we will take stock of what we have learned and turn to current policy debates and the role of evidence-based research. The course has three main learning goals: 1. students will learn how (and whether) econometric techniques can be used to answer empirical research questions, 2. students will understand how to estimate basic econometric models in STATA, 3. students will have a basic introduction to empirical research in development economics. Note, this course is designated as writing intensive (WRIT) with respect to requirements in the core curriculum.

Prerequisites: Intermediate Economic Theory - Micro (30010) , Econometrics (30331)

Assignments and Grading

Course Website: All lecture slides, assignments, guidelines for assignments, readings – aside from the textbook – and supporting resources are available on the course website. I recommended reviewing the assignments ahead of time to get a sense for the work involved in the course. Lecture slides may be updated prior to class, so make sure to download the latest version.

1. Class participation (10%)

Learning about Econometrics & Development: The primary method of learning in this class will be reading and discussing empirical papers in detail. The research designs in these papers will provide a template that you can take to your own research questions. Shirking on the readings will make writing the final paper very difficult. Typically, I will ask students questions by name as a way to improve the level of participation and increase the likelihood that you've done the reading beforehand. Your class participation grade will be a mix of how well prepared you are for class, how you ask and respond to questions and your attendance. You may miss two classes without a valid excuse (i.e. medical, athletic activities etc...). For any successive absence without a valid excuse, I will deduct 2% from your class participation grade.

2. Three STATA assignments (8% each, total 24%)

Coding Econometrics: The STATA assignments will do two things: 1. improve your ability with STATA, 2. improve your understanding of and ability to implement the main empirical strategies that are covered in class. The latter will also prepare you for the coding you'll need to do for your final paper. While coding exercises typically have similar output that makes it easy to copy, I strongly encourage you to work on these exercises on your own even if it means getting a lower grade. If you copy someone's code, I guarantee you that you will spend endless hours trying to figure out a simple command when you are writing your paper and it will stress you out and lead to a lower grade.

3. Mid-term Exam (20%)

Testing Econometrics: The exam will cover *all* material from the first two sections of the class: material presented in class, in-class discussions, all assigned readings and the STATA assignments. There will be an emphasis on

applied econometrics so it will mostly test a conceptual understanding of econometrics to help you prepare for your term paper.

4. **Preliminary Proposal**, (5 page max, 6%)

Developing a Research Question: Students are asked to identify a question of interest to them related to development – this could be inspired by an area of research, policy debates in the media, history etc.. – find data and apply empirical techniques to answer such a question.

The *Preliminary Proposal* will ask that you to write-up a description of the idea, a literature review, gain access to a dataset and compute summary statistics using your dataset. Note, *all* students are *required* to meet with the instructor to discuss their preliminary proposal.

5. **Revised Proposal Presentation**, (10 slide max, 15%)

The *Revised Proposal Presentation* will give you time to incorporate feedback from the preliminary proposal, refine your ideas, add any additional data required and report the results of preliminary empirical work. You will put together a presentation (10 slide max) and get feedback from the class.

6. **Research Paper** (15 pages max, all inclusive, 25%)

Applying Econometrics to your Research Question: Students are required to write an original short term paper that empirically examines an important question related to economic development. This paper should build off the revised research proposal incorporate further analyses and feedback. Students are required to submit a hard copy and an electronic copy of their term paper. Late papers will have very limited feedback.

Textbook

Joshua D Angrist and Jörn-Steffen Pischke. *Mostly harmless econometrics: An empiricist's companion*. Princeton university press, 2008

I recommend you purchase this book and use it as a reference throughout the semester. In addition, the call number for [Angrist and Pischke \[2008\]](#) is [HB 139 .A54 2009].

Reading List

Aside from the textbook above, all assigned journal articles will be posted on the course web site. In addition, their complete bibliographic references are included below.

Preparation

Throughout the semester, we will discuss recent journal articles in detail. This will be the primary way of understanding and applying empirical methods, such as Ordinary Least Squares (OLS), Instrumental Variables (IV), and Difference-in-Difference estimation. Students should have a prior understanding of econometrics or, at a minimum, statistics leading up to OLS and Hypothesis testing. I will briefly review statistics and econometrics at the beginning of the course but this is intended as a refresher. In addition, it is preferred that students have some familiarity with STATA or another statistical package (support will only be provided for STATA, however).

Software

STATA is available in all classrooms and clusters on campus, but can also be purchased for your personal computer through the university's GradPlan (see website for details). There will be a refresher course for STATA that will also cover resources offered through Hesburgh Library. Attendance at this session is mandatory irrespective of prior familiarity with STATA.

Additional Stata/data help: Mark Robison is the Economics, Political Science, and Peace Studies Librarian at Hesburgh Library. He has experience working with data in Stata. Office hours are by appointment. He is located at 148 Hesburgh Library. His email is librarianmark@nd.edu

Honor Code Information

In signing the university's **honor code**, you agreed not to participate in or tolerate academic dishonesty. I expect you to adhere to this strictly, and any violations will be reported to the Associate Provost. I will let you know if it is acceptable to work in groups on assignments.

Policy on Late Assignments

Without a valid excuse, for each day an assignment is late I will deduct 1% from the assignment. e.g. if an assignment is worth 15% and it is 2 days late, I will deduct 2%. So, if you scored 14% your final score will be 12%.

Health and Safety Protocols

While this class is being taught online, in the event that students meet to discuss work in-person, students must comply with all University health and safety including:

- Face masks that completely cover the nose and mouth
- Physical distancing

We are part of a community of learning in which compassionate care for one another is part of our spiritual and social charter. Consequently, compliance with these protocols is an expectation for everyone enrolled in this course. Persistent deviation from expected health and safety guidelines may be considered a violation of the University's "Standards of Conduct," as articulated in du Lac: A Guide for Student Life, and will be referred accordingly.

Class Schedule & Assignments

Introduction & Review

1. Introduction to the Course [Aug 11]
2. Review of Econometrics [Aug 13, 18, 20]
First STATA exercise due on August 20th

The Inherited Past: Institutions, Culture, & Geography

1. 'Out of Eden' [Aug 25]
Documentary I, no reading
2. Colonialism [Aug 27, Sept 1]

3. Culture [Sept 3, 8]
Second STATA exercise due on September 3rd
4. Geography & Climate [Sept 10, 15]
Third STATA exercise due Sept 15th
5. Mid-term Exam [Sept 17]
6. Exam Review [Sept 22]
7. ‘Inside the Machine’ [Sept 24]
Documentary II, see companion reading

Arriving at the Present: Growth Models & Market Failures

1. Classical Growth Models & Structural Change [Sept 29, Oct 1]
2. Technology Adoption & Agriculture [Oct 6, Oct 8]
Preliminary research proposal due on Oct 10
3. Health & Education [Oct 13, Oct 15]
4. Poverty Traps and Labor Mobility [Oct 20]

The Present: Governance & Policy

1. Term Paper Clinic [Oct 22]
2. Revised proposal presentations [Oct 27, Oct 29, Nov 3]
Revised proposal due on Oct 27nd
3. ‘Poverty Inc.’ [Nov 5]
Documentary III, no reading
4. Governance [Nov 10]
5. Development Policy in Perspective [Nov 12]
Final Paper due by Nov 15th

Reading List *(subject to change)*

Introduction & Review

1. Introduction to Course

(Aug 11) Abhijit V Banerjee and Esther Duflo. The economic lives of the poor. *Journal of economic perspectives*, 21(1):141–168, 2007

2. Econometrics Review I: OLS & Hypothesis Testing

(Aug 13) Chapter 1, 2, 3.1 & 3.2 in Joshua D Angrist and Jörn-Steffen Pischke. *Mostly harmless econometrics: An empiricist's companion*. Princeton university press, 2008

3. Econometrics Review II: OVB & Difference-in-Differences

(Aug 18) Chapter 5.1, 5.2 in Joshua D Angrist and Jörn-Steffen Pischke. *Mostly harmless econometrics: An empiricist's companion*. Princeton university press, 2008

4. Econometrics Review III: Instrumental Variables & RDD

(Aug 20) Chapter 4.1, 4.5, 6.1, 6.2 in Joshua D Angrist and Jörn-Steffen Pischke. *Mostly harmless econometrics: An empiricist's companion*. Princeton university press, 2008

The Inherited Past: Institutions, Culture & Geography

1. Colonialism

(Aug 27) Daron Acemoglu and J Robinson. The colonial origins of comparative development: An empirical investigation. *The American Economic Review*, 91(5):1369–1401, 2001

(Sept 1) Melissa Dell. The persistent effects of peru's mining mita. *Econometrica*, 78(6):1863–1903, 2010

2. Culture

(Sep 3) Nathan Nunn and Leonard Wantchekon. The slave trade and the origins of mistrust in africa. *The American Economic Review*, 101(7):3221–3252, 2011

(Sep 8) David Clingingsmith, Asim Ijaz Khwaja, and Michael Kremer. Estimating the impact of the hajj: Religion and tolerance in islam’s global gathering. *The Quarterly Journal of Economics*, 124(3):1133–1170, 2009

3. Climate & Geography

(Sep 10) Melissa Dell, Benjamin F Jones, and Benjamin A Olken. Temperature shocks and economic growth: Evidence from the last half century. *American Economic Journal: Macroeconomics*, 4(3):66–95, 2012

(Sep 15) Nathan Nunn and Diego Puga. Ruggedness: The blessing of bad geography in africa. *Review of Economics and Statistics*, 94(1):20–36, 2012

4. ‘Inside the Machine’

(Sept 24) Abhijit Banerjee. Inside the machine. *Boston Review*, 2007. URL <https://economics.mit.edu/files/5850>

Arriving at the Present: Growth Models & Market Failures

1. Classical Growth Models

(Sep 29) Chapter 3 in Debraj Ray. *Development economics*. Princeton University Press, 1998

(Oct 1) Douglas Gollin, David Lagakos, and Michael E Waugh. The agricultural productivity gap. *The Quarterly Journal of Economics*, 129(2):939–993, 2013

2. Technology Adoption & Agriculture

(Oct 6) Shawn A Cole and A Niles Fernando. Mobile'izing agricultural advice: Technology adoption, diffusion, and sustainability. *The Economic Journal*, 2020

3. Education & Health

(Oct 13) Edward Miguel and Michael Kremer. Worms: identifying impacts on education and health in the presence of treatment externalities. *Econometrica*, 72(1):159–217, 2004

(Oct 15) Esther Duflo. Schooling and labor market consequences of school construction in indonesia: Evidence from an unusual policy experiment. *The American Economic Review*, 91(4):795–813, 2001

4. Poverty Traps & Labor Mobility

(Oct 20) Gharad Bryan, Shyamal Chowdhury, and Ahmed Mushfiq Mobarak. Underinvestment in a profitable technology: The case of seasonal migration in bangladesh. *Econometrica*, 82(5):1671–1748, 2014

The Present: Governance & Policy

1. Governance

(Nov 10) Benjamin A Olken. Monitoring corruption: Evidence from a field experiment in indonesia. *Journal of Political Economy*, 115(2), 2007

2. Development Policy in Perspective

(Nov 12) Pranab Bardhan. Who represents the poor. *Boston Review*, 2011. URL <http://bostonreview.net/pranab-bardhan-who-represents-the-poor>

(Nov 12) Nathan Nunn and Nancy Qian. Us food aid and civil conflict. *The American Economic Review*, 104(6):1630–1666, 2014