University of Colorado at Boulder

Fall Semester 2020

Econ 8433-001: Topics in International Economics

Lecture:	Mon., Wed. 01:55 PM - 03:10 PM
Instructor:	Dr. Sergey Nigai
Office:	ECON 10
Office Hours:	Mon. 9:30 AM - 11:30 AM (via Zoom)
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Course description and objectives:

This is a seminar on various topics in international economics. The course is a part of the graduate trade sequence and complements the course on international trade theory. Unlike the latter, this course will not include extensive review of the literature and instead will cover data, estimation, calibration, and solutions of several classes of modern quantitative models. Completion of ECON 8413 is not a prerequisite for this class. However, students planning to write their dissertation in international trade should take both.

The main objective of this course is to provide you with the tools necessary to find quantitative answers in international economics. This involves choosing the appropriate theoretical model, estimating its parameters, and designing quantitative experiments. By the end of the semester, I expect you to have completed a report containing the actual results you will derive. This report may eventually serve as the basis for one of the chapters of your dissertation. While the course is designed for students specializing in international trade, the tools learned in this course will have direct applications in other fields such as I.O., urban/regional economics, and others.

Course requirements:

The course will consist of lectures, discussions, problem sets, and presentations. Much of our time will be devoted to estimation and calibration methods, as well as designing counterfactual experiments. You should be prepared to learn how to use both MATLAB and STATA in producing your outputs. You will also need to use LaTeX for the report and presentations. I will provide brief introductions to the software and distribute sample codes.

During the semester you will make three presentations:

- Introductory Presentation will include discussion of the proposed research question:

    - Why is it interesting?

    - What are the most closely related papers in the established literature? What are their drawbacks? How are you planning to improve upon or add to the existing work?

    - What data/models are needed to approach the question?

– What is the timeline of your research project?

- INTERMEDIATE PRESENTATION will include updates on your progress:

    – What data/models do you use to answer the research question?

    – What difficulties/issues have you encountered so far? How are you planning to address them?

- FINAL PRESENTATION will be a regular (though shorter than usual) paper presentation.

I will also assign several problem sets during the semester. These problem sets will reinforce your understanding of various quantitative approaches and ensure that you have multiple sample codes that can be used for your research projects in the future.

GRADING:

Your final grade will be calculated as follows:

PARTICIPATION:	10%
PROBLEM SETS:	10%
INTRODUCTORY PRESENTATION:	10%
INTERMEDIATE PRESENTATION:	10%
FINAL PRESENTATION:	30%
FINAL REPORT:	30%

REQUIRED MATERIALS:

Most of the required readings are either published articles or working papers. We will complement them with:

- *Handbook of International Economics*, Volume 4, Pages 1-740 (2014), edited by Gita Gopinath, Elhanan Helpman and Kenneth Rogoff

- *Elements of Advanced International Trade* by Treb Allen and Costas Arkolakis

Both are available online.

The tentative schedule for the class is below. Depending on the progress, we may go slower/faster.

WEEK 1: August 24, August 26: INTRODUCTION TO STRUCTURAL GRAVITY EQUATION

- Allen and Arkolakis: Chapter 3

- Anderson, J. (1979), A Theoretical Foundation for the Gravity Equation, *American Economic Review*, 69(1), 106-116.

WEEK 2: August 31, September 2: CALIBRATION AND ESTIMATION

- Santos Silva, J.M.C. and S. Tenreyro (2006), The Log of Gravity, *The Review of Economics and Statistics*, 88(4), 641-658.

- Head, K. and T. Mayer (2014), "Gravity Equations: Workhorse, Toolkit, and Cookbook", Chapter 3 in Gopinath, G, Helpman, E., and K. Rogoff (eds.), *Handbook of International Economics*, Vol. 4.

- Egger, P.H. and S. Nigai (2015), Structural gravity with dummies only: Constrained ANOVA-type estimation of gravity models, *Journal of International Economics*, 97(1), 86-99.

WEEK 3: September 9: MAPPING MODELS TO THE DATA

- GGDC Productivity Level Database

- WITS, CEPII

- World Input-Output Database

WEEK 4: September 14, September 16: DESIGNING COUNTERFACTUAL EXPERIMENTS IN GENERAL EQUILIBRIUM

- Dekle, R., Eaton, J., and S. Kortum (2007), Unbalanced Trade, *American Economic Review*, 97(2), 351-355.

- Arkolakis C., Costinot, A., and A. Rodriguez-Clare (2012), New Trade Theories Same Old Gains?, *American Economic Review*, 102(1), 94-130.

- Costinot, A. and A. Rodriguez-Clare (2014), "Trade Theory with Numbers: Quantifying the Consequences of Globalization", Chapter 4 in Gopinath, G, E. Helpman and K. Rogoff (eds.), *Handbook of International Economics*, Vol. 4.

- Allen and Arkolakis: Chapter 7

WEEK 5: September 21, September 23: PRESENTATIONS (I) AND CATCH-UP

WEEK 6: September 28, September 30: HETEROGENEOUS FIRMS (I)

- Melitz, M. (2003), The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity, *Econometrica*, 71(6), 1695-1725.

- Arkolakis C., Demidova, S., Klenow, P., and A. Rodriguez-Clare (2008), Endogenous Variety and the Gains from Trade, *American Economic Review*, 98(2), 444-450.

- Chaney, T. (2008), Distorted Gravity: Heterogeneous Firms, Market Structure, and the Geography of International Trade, *American Economic Review*, 98(4), 1707-1721.

WEEK 7: October 5, October 7: HETEROGENEOUS FIRMS (II)

- Melitz, M. and S. Redding (2014), "Heterogeneous Firms and Trade", Chapter 1 in Gopinath, G, E. Helpman and K. Rogoff (eds.), *Handbook of International Economics*, Vol. 4.

- Allen and Arkolakis: Chapters 3-5

WEEK 8: October 12, October 14: RICARDIAN MODELS

- Eaton J. and S.Kortum (2002), Technology, Geography, and Trade, *Econometrica*, 70(5), 1741-1780.

- Allen and Arkolakis: Chapter 4

WEEK 9:   October 19, October 21: MULTI-SECTOR MODELS

WEEK 10:   October 26, October 28: GLOBAL VALUE CHAINS

- Antras, P., and Chor, D. (2013). Organizing the Global Value Chain, Econometrica.

- Costinot, P., Vogel, J., and Wang, S. (2012). Global Supply Chains and Wage Inequality, Review of Economic Studies.

- Costinot, A., Donaldson, D., and I. Komunjer (2012), What Goods Do Countries Trade? A Quantitative Exploration of Ricardo's Ideas, *Review of Economic Studies*, 79(2), 581-608.

- Caliendo, L. and F. Parro (2015), Estimates of the Trade and Welfare Effects of NAFTA, *Review of Economic Studies*, 82(1), 1-44.

- Ossa, R. (2015), Why Trade Matters After All, *Journal of International Economics*, 97(2), 266-277.

WEEK 11:   November 2, November 4: PRESENTATIONS (II) AND CATCH-UP

WEEK 12:   November 9, November 11: EXTENSIONS: DEMAND SIDE

- Markusen, J. (2013), Putting Per-Capita Income back into Trade Theory, *Journal of International Economics*, 90, 255-265.

- Mrazova, M. and P. Neary (2017), Not So Demanding: Demand Structure and Firm Behavior, *American Economic Review*, 107(12), 3835-74.

- Arkolakis C., Costinot, A., Donaldson, D., and A. Rodriguez-Clare (2018), The Elusive Pro-Competitive Effects of Trade, *Review of Economic Studies*, *Forthcoming*.

WEEK 13:   November 16, November 18: EXTENSIONS: SUPPLY SIDE

- Krusell, P., Lee, O., Jose-Victor, R., and G. Violante (2000), Capital-Skill Complementarity and Inequality, *Econometrica*, 68(5), 1029-1053.

- Parro, F. (2013), Capital-Skill Complementarity and the Skill Premium in a Quantitative Model of Trade, *American Economic Journal: Macroeconomics*, 5(2), 72-117.

- Nigai, S. 2017. A tale of two tails: Productivity distribution and the gains from trade, *Journal of International Economics*, 104: 44-62.

WEEK 14:   November 23, November 25: EXTENSIONS: MIGRATION AND GEOGRAPHY

- Anderson, J.E. (2001), The Gravity Model, *Annual Review of Economics*, 3, 133-160.

- Rossi-Hansberg, E. and S. Redding (2017), Quantitative Spatial Economics, *Annual Review of Economics*, 9, 21-58.

WEEK 15:   November 30, December 2, December 7: PRESENTATIONS (III) AND CATCH-UP

POLICIES:

We will comply with all CU Boulder policies including:

- REQUIREMENTS FOR COVID-19 As a matter of public health and safety due to the pandemic, all members of the CU Boulder community and all visitors to campus must follow university, department and building requirements, and public health orders in place to reduce the risk of spreading infectious disease. Required safety measures at CU Boulder relevant to the classroom setting include:

  - maintain 6-foot distancing when possible,

  - wear a face covering in public indoor spaces and outdoors while on campus consistent with state and county health orders,

  - clean local work area,

  - practice hand hygiene,

  - follow public health orders, and

  - if sick and you live off campus, do not come onto campus (unless instructed by a CU Healthcare professional), or if you live on-campus, please alert CU Boulder Medical Services.

  Students who fail to adhere to these requirements will be asked to leave class, and students who do not leave class when asked or who refuse to comply with these requirements will be referred to Student Conduct and Conflict Resolution. For more information, see the policies on COVID-19 Health and Safety and classroom behavior and the Student Code of Conduct. If you require accommodation because a disability prevents you from fulfilling these safety measures, please see the "Accommodation for Disabilities" statement on this syllabus. Before returning to campus, all students must complete the COVID-19 Student Health and Expectations Course. Before coming on to campus each day, all students are required to complete a Daily Health Form. Students who have tested positive for COVID-19, have symptoms of COVID-19, or have had close contact with someone who has tested positive for or had symptoms of COVID-19 must stay home and complete the Health Questionnaire and Illness Reporting Form remotely. In this class, if you are sick or quarantined and are unable to join class, send me an email before class.

- ACCOMMODATION FOR DISABILITIES. If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability Services website. Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance. If you have a temporary medical condition, see Temporary Medical Conditions on the Disability Services website.

- ACADEMIC INTEGRITY: http://www.colorado.edu/policies/academic-integrity-policy

- EXAMINATION: http://www.colorado.edu/policies/final-examination-policy

- RELIGIOUS HOLIDAYS. Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. See the campus policy regarding religious observances for full details: http://www.colorado.edu/policies/observance-religious-holidays-and-absences-classes-andor-exams

- CLASSROOM BEHAVIOR. Both students and faculty are responsible for maintaining an appropriate learn-

ing environment in all instructional settings, whether in person, remote or online. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. For more information, see the policies on classroom behavior and the Student Code of Conduct.

· SEXUAL MISCONDUCT, DISCRIMINATION, HARASSMENT AND/OR RELATED RETALIATION. The University of Colorado Boulder (CU Boulder) is committed to maintaining a positive learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct, discrimination, harassment or related retaliation against or by any employee or student. CU's Sexual Misconduct Policy prohibits sexual assault, sexual exploitation, sexual harassment, intimate partner abuse (dating or domestic violence), stalking or related retaliation. CU Boulder's Discrimination and Harassment Policy prohibits discrimination, harassment or related retaliation based on race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. Individuals who believe they have been subject to misconduct under either policy should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127. Information about the OIEC, the above referenced policies, and the campus resources available to assist individuals regarding sexual misconduct, discrimination, harassment or related retaliation can be found at the OIEC website.

· HONOR CODE. All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code (honor@colorado.edu); 303-492-5550). Students found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found at the Honor Code Office website.