Topics in International Trade: Syllabus

International Economics (GPEC 435) — Fall 2020

October 1, 2020

Course number:	GPEC 435
Lecture:	TueThu 2:00p-3:20p
Lecture hall:	RBC Auditorium (GPS 3201)
Course web page:	*econ.ucsd.edu/muendler/teach/20f/435*
Instructor:	Marc-Andreas Muendler
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DESCRIPTION

This course aims to equip students with the conceptual understanding of causes and consequences of international trade, to advance their empirical skills for contemporary international economic research and policy analysis, and to develop professional capabilities in evaluating current research, making presentations, and completing written projects. By the end of the course, each student will have completed guided data exercises that underly typical international trade analysis, conducted a research-based trade policy debate, and completed an original econometric project that can serve as a demonstration of quantitative aptitude in international economics.

On the conceptual side, the course addresses the economic forces of the global division of labor, the determinants of international trade flows and trade imbalances, and predictions of consequences for income levels and disparities. The conceptual material is intertwined with practical guidance on trade policy analysis based on the so-called gravity model of trade, covering concurrent empirical methods for estimation and a toolkit for theory-consistent simulations of policy alternatives. The course thus pairs a rigorous conceptual exposition with the relevant empirical applications so that estimation and simulation account for the importance of general-equilibrium effects, as they ripple through the world economy and local markets. Examples of analysis include the formation and dissolution of trade agreements, the imposition or removal of trade barriers and subsidies, and assessments of consequences of globalization for local markets.

Class meetings will be a combination of lectures with programming instruction for the early meetings, an in-class discussion of the labor-market consequences of globalization, and research presentations of class projects with a discussant towards the end of the quarter.

OBJECTIVES

After completion of this course, you will be able to:

- Explain the economic forces that drive the global division of labor.
- Predict the global location of export-leading and import-competing industries across countries.
- Analyze causes and consequences of specialization in economic activity and their evolution over time.
- Associate trade imbalances with the foundational macroeconomic conditions.
- Apply the gravity model of international trade to estimate trade patterns and predict trade flows.
- Assess the relative importance of geographic and political barriers to trade and the economic consequences of their change.
- Provide theoretical rationales for the empirical success of the gravity model of international trade, based on precise theoretical foundations.
- Interpret and adequately treat the individual components of the gravity model of international trade for theoretical analysis, estimation, and simulation.
- Use the theoretical foundations to estimate a structural gravity model of international trade, employing state-of-the-art methods.
- Produce rigorous counterfactual simulations of the global economy under alternative trade policy scenarios.
- Discuss local impacts of global integration, including labor-market consequences.
- Produce original econometric work to address a global economic or policy issue of your choice.

PREREQUISITES

QM II (or equivalent), QM III (concurrent enrollment permitted), and fluency in statistical programming; or instructor's consent. Students may not receive credit for GPEC 435 and IRGN 435.

FORMAT

The course will be taught in a hybrid format. You can take the course in three ways.

- Synchronous-remote: Follow a live stream of the lecture, answer Canvas surveys live, and ask live questions using the Zoom chat (moderated by Teaching Assistant Jacob Orchard).
- In-person (rotating): Be physically present in the classroom to actively participate in person during lecture, answer Canvas surveys live (using your own electronic device), ask questions, and talk to the instructor in person before or after lecture at a distance.
- Asynchronous-remote: Follow a Podcast/Zoom recording of lecture, answer Canvas surveys within 36 hours of the lecture, but no opportunity to ask live questions.

Following campus safety requirements, you must wear a mask in the lecture hall at all times (as on any UC San Diego location). The instructor and teaching assistant will wear a mask before and after lecture, and when necessary during lecture, and maintain proper physical distancing at all times. For the UC San Diego campus safety policy, please see *returntolearn.ucsd.edu*.

MATERIALS

Lecture notes become available online at *canvas.ucsd.edu* and at *econ.ucsd.edu/muendler/teach/20f/435* before each lecture.

Similarly, instructions for empirical exercises become available online at *canvas.ucsd.edu* and at *econ.ucsd.edu/muendler/teach/20f/435* before each lecture.

Textbooks (required): Yoyo V. Yoyov, Roberta Piermartini, José-Antonio Monteiro and Mario Larch (2016), see *www.wto.org/english/res_e/booksp_e/advancedwtounctad2016_e.pdf*; Marc-Andreas Muendler (2020)/Ch. 1-4, 14; Jonathan Eaton and Samuel Kortum (2010)/Ch. 2-3.

Article Readings (recommended): James E. Anderson (2011); Rudiger Dornbusch, Stanley Fischer and Paul A. Samuelson (1977); Marc-Andreas Muendler (2017, section 3); Marc-Andreas Muendler (2018).

Background Readings (optional): James E. Anderson and Van Wincoop, Eric (2003); James E. Anderson and Yoto 5. Yotov (2010); James E. Anderson, Mario Larch and Yoto V. Yotov (2018); Thomas Chaney (2018); Arnaud Costinot and Andrés Rodríguez-Clare (2014). Keith Head and Thierry Mayer (2014); **?**;

The practitioner's textbook by Yoyov et al. (2016) serves as the main resources for estimation approaches. The textbook drafts Muendler (2020) and Eaton and Kortum (2010) present key theoretical concepts. Yoyov et al. (2016) is freely accessible at *www.wto.org/english/res_e/booksp_e/advancedwtounctad2016_e.pdf*. Electronic copies of these textbook drafts are available from *canvas.ucsd.edu* and *econ.ucsd.edu/muendler/teach/20f/435*.

The remaining readings are available online and electronically accessible from campus (or through a VPN connection to campus). The recommended article readings complement the material in class, and the optional background readings can serve as points of departure into additional research topics.

SOFTWARE

Please install the software package Stata/SE 16 on a suitable computer and have the computer next to you during class, so you can actively follow the coding portion of lecture. You can download Stata/SE 16 and the license file from the link provided through *canvas.ucsd.edu*. Stata/SE 16.1 is a free update for all Stata/SE 16 users. To get the update, launch Stata/SE 16 and type update all

Please consider installing the Canvas app on a portable device and have the device with you and ready for class. There will be occasional live Canvas surveys in lecture (with a permitted 36 hours delay for asynchronous students). On Thursday, it will be important to survey your preferences for participation mode and time zones to plan details of the course.

EMPIRICAL EXERCISES

From October 1 through October 29, and on November 5 and November 10, there will be short assigned empirical exercises. The exercise will ask you to implement statistical and econometric approaches from class,

using Stata/SE 16. You receive readily prepared global data sets for this purpose on *canvas.ucsd.edu* and at *econ.ucsd.edu/muendler/teach/20f/435*, as well as starting Stata code.

There are two deliverables for each empirical exercise: (i) a file with results in the form of figures or tables (pdf preferred), and (ii) your Stata code. While it is acceptable that you exchange ideas with your classmates, you must deliver **your own code file and results**.

For each empirical exercise, you have exactly one week to complete it, until 5pm of the respective due day. For example, the empirical exercise for October 1 will be due on October 8 at 5pm; the empirical exercise for November 5 will be due on November 12 at 5pm.

Please **upload** the pdf file with results and the Stata do file to *canvas.ucsd.edu*.

Assessment: You can earn up to four points per empirical exercise. There are 11 empirical exercises. We will count the ten best scores. You can earn up to 40 points in your empirical exercises, and they will count for 40 percent of the final grade.

Debate: Labor-market Consequences of Globalization

There will be an in-class debate on November 19. The theme of the debate is *Labor-market Consequences of Globalization*. This research area goes beyond the gravity model of international trade in approach, as it investigates local impacts of global trade, and in method.

Your preparations in this area will help you assess research on your own and then verbally present arguments in favor or against a topic. You will be randomly assigned to a group of four to six students and assigned to argue either in favor or against an issue, such as *China trade is or is not responsible for economy-wide U.S. employment losses*, *Structural estimation is or is not more conclusive than reduced-form estimation*, *Trade reform is or is not the cause of adverse long-term labor-market outcomes*, *Offshoring is or is not responsible for the hollowing out of domestic manufacturing value added*.

Your discussion topic and random team assignments will be announced on November 19.

Debate presentations should be concise and widely intelligible. Your arguments should be versatile in response to those presented by others, both in combating counter-arguments to your assigned point of view and in avoiding duplication of arguments supportive of your point of view. Your arguments should reinforce.

Assessment: Your participation in the debate will be graded, counting 5 percent of your final grade. Your performance will not be graded.

Gravity Project

You will research, write on, and present a project that involves gravity estimation to answer a policy issues in international economics, such as: the trade impact of distance, of China's export performance, of existing regional trade agreements such Mercosur or Canada-EU, possible trade agreements such as TPP, of disintegration such as Brexit, of WTO dispute settlements, or of currency unions or a possible Grexit.

You can work by yourself on the project or in a team of two. (We may consider rare exceptions.) You can form a team of two by yourselves, or ask to be randomly assigned to a classmate, or opt to do single-authored work.

A topic elaboration (proposal) is due by mid October, and a first draft of the paper in late November (before the Thanksgiving holiday). Every project team will be randomly assigned a discussant or discussant team. The discussants will receive the first draft of the paper and work on their discussion.

The project paper should have 10-12 pages and be presented in around 15 to 20 minutes using 5 to 7 slides. The final project paper can take the discussant's comments into account and is due on the Friday of Finals week.

The discussant should take 3 to 5 minutes and cannot use slides. The discussion should address main strengths and weaknesses, make concrete proposals for improvement, and assess the conceptual approach as well as the conclusiveness of results.

The time line and grade shares are as follows:

October 15. Circulation of sample project ideas

November 10, 5pm. Due date for one-page topic elaboration (proposal), submission through Canvas: 5 percent

November 24, 5pm. Due date for paper draft (10-12 pages of text), to TA and instructor as well as Discussant(s), submission through Canvas: 10 percent

December 1-10. Project presentations and discussions in-class: 15 percent

December 18, 5pm. Due date final project paper (10-12 pages of text), submission through Canvas: 20 percent

The presentation and paper together count for 60 percent of your total grade

The presentation should cover the entire project. For both paper and presentation, keep the following questions in mind. First, what is the treatment effect that you are trying to estimate? What is the economic significance of this treatment (in terms of policy or other motivations)? Is there likely to be heterogeneity in this treatment effect within the sample (e.g., across time or regions)? What are the econometric challenges that you face in the estimation? Present data in graph or table format that help motivate the potential existence of your treatment.

Second, describe the main specifications that you use in your analysis. For each specification, what is the counterfactual for the treatment? Present your main estimation results. How does your treatment effect vary across the specifications you have estimated? Which set of results do you find most credible in terms of causality? What are the policy implications of your estimation exercise?

Your project work must adhere to the highest standards of academic integrity. If you base your work on other sources, cite them accordingly. If you use programming code and data from existing sources, make according attributions in text and footnotes.

Your writing should be succinct and devoid of grammatical errors (your prose does not have to be elegant but it does have to communicate your ideas accurately and clearly, free of mistakes). Presentations should use data concisely and avoid information overload. There are simple rules for effective writing: omit needless words and do not overuse key words, write in the active voice, avoid adverbs, do not interject subjective opinion in place of objective analysis. There are also simple rules for presentation: favor graphs over tables, scale numerical values appropriately, be realistic about the number of slides you can present in the allotted time, limit the number of words that appear on each slide, practice repeatedly using a timer, review video of your presentations.

Assessment: Grading of the gravity project will be based on the professional quality of your written paper and oral presentations, as outlined above. Your own gravity project will count for a total of 50 percent of your final grade. Your discussion of another paper will be graded for participation (but not performance) and count 5 percent of your final grade.

Writing Tutor

The Writing Tutor at GPS, James Radcliffe, offers advice for your project. His advising hours will be Mon and Wed 7:00a-9:30a and 4:00p-6:30p. Any student may drop by during office hours to brainstorm ideas, discuss how to approach an assignment, or ask general questions about writing. If you would like feedback or edits on a rough draft of a writing assignment, email the prompt and your draft to James Radcliffe (*jjradcli@ucsd.edu*).

He will try to respond with feedback within 24 hours. If you would like to discuss your draft in-person, you may schedule an appointment time during the scheduled office hours. Please email your draft at least 24 hours before the appointment in order to receive the best quality feedback.

Grade

Your final grade is based on both the empirical exercises and the gravity project (paper and presentation). The empirical exercise count for 40 percent, the gravity project for 50 percent (presentation 15 percent and paper 35 percent). Your participation, but not your performance, on the in-class debate and the paper discussion count 5 percent each.

Academic Integrity

Students are expected to honor the highest standards of academic integrity. Failure to honor that code will be reported to the office of academic integrity. To review the campus policy, please visit: *students.ucsd.edu/academics/academic-integrity*.

Academic Accommodations

Any student with documented disability in accordance with UC San Diego policy has the right to a special accommodation. Please present the formal requests within the first two weeks of class so that the necessary arrangements can be made. Please contact GPS student services with any questions about documentation.

Non-discrimination and No Harassment

UC San Diego and GPS are committed to creating an environment free from all forms of discrimination and harassment, in which all students are able to learn and openly express themselves.

Course Schedule

I. Foundations of Global Specialization and Gravity

1. Thu, October 1: The Global Division of Labor and Comparative Advantage
Reading: Muendler (2020, ch. 1)
Empirical exercise: Trade imbalances per capita

2. Tue, October 6: The Standard Trade Model
Reading: Muendler (2020, ch. 2)
Empirical exercise: Changes of revealed comparative advantage over time

3. Thu, October 8: The Gravity Equation
Readings: Anderson (2011), Eaton and Kortum (2010, ch. 2, sections 2.1.1 and 2.1.2)
Empirical exercise: Plot gravity

4. Tue, October 13: Traditional Gravity, Distance, and Trade Barriers
Reading: Yoyov et al. (2016, p. 41-49, 90-91)
Empirical exercise: Gravity for manufacturing vs. services

5. Thu, October 15: Comparative Advantage and Many Industries
Reading: Muendler (2020, ch. 3, sections 3.3 and 3.4)
Empirical exercise: Gravity and the unitary distance coefficient
Out: Possible research topics for gravity project (topic elaboration due on November 5)

II. Structural Gravity and Trade Policy

6. Tue, October 20: Structural Gravity
Readings: Yoyov et al. (2016, p. 12-17), Eaton and Kortum (2010, ch. 3, sections 3.1.1), optional: Head and Mayer (2014)
Empirical exercise: Gravity with and without self-trade

7. Thu, October 22: Challenges for Gravity Estimation
Readings: Yoyov et al. (2016, p. 17-27, 40-45)
Empirical exercise: Traditional gravity vs. Poisson Pseudo Maximum Likelihood gravity

8. Tue, October 27: Gains From Trade and the Terms of Trade
Reading: Muendler (2020, ch. 4, section 4.4), Yoyov et al. (2016, p. 17-27), optional: Costinot and Rodríguez-Clare (2014)
Empirical exercise: Measures of the U.S. gains from trade

9. Thu, October 29: Trade Agreements
Reading: Yoyov et al. (2016, p. 49-54)
Empirical exercise: Estimating the effects of WTO accession
Out: Discussion topics and random team assignments for in-class debate on November 19

III. Structural Gravity in General Equilibrium

10. Tue, November 3: Multilateral Resistance and General Equilibrium
Reading: Yoyov et al. (2016, p. 70-80)
Project work: Elaborate topic
Due date for topic elaboration: Tue, November 10, 5pm.

11. Thu, November 5: Gravity Approaches to General Equilibrium I
Reading: Yoyov et al. (2016, p. 88-102, 121-125)
Empirical exercise: The dynamics of comparative advantage

12. Tue, November 10: Gravity Approaches to General Equilibrium II
Reading: Yoyov et al. (2016, p. 88-102, 111-117)
Empirical exercise: Quantifying the effects of NAFTA

IV. Trade Imbalances and Local Consequences of Trade

13. Thu, November 12: Intertemporal Trade
Reading: Muendler (2020, ch. 14)
Project work: Submit project paper draft to Instructor and Teaching Assistant
Due date for paper draft: Tue, November 24, 5pm.

14. Tue, November 17: Intertemporal Trade with Many Industries
Reading: Dornbusch, Fischer and Samuelson (1977)
Assignment: Preparation for discussion of labor-market consequences of globalization

15. Thu, November 19: Labor-market Consequences of Globalization: A Debate
Reading: Muendler (2017, section 3)

16. Tue, November 24 : Globalization, Prosperity, and Equity
Reading: Muendler (2018)
Project work: Prepare discussion of one other paper

V. Topics

17. Tue, December 1: Project Presentations

18. Thu, December 3: Project Presentations

19. Tue, December 8: Project Presentations

20. Thu, December 10: Project Presentations
Project work: Submit final project paper to Instructor and Teaching Assistant
Due date for final project paper: Fri, December 18, 5pm.

References

Anderson, James E. 2011. "The Gravity Model." *Annual Review of Economics*, 3(1): 133–60.

Anderson, James E., and Van Wincoop, Eric. 2003. "Gravity with Gravitas: A Solution to the Border Puzzle." *American Economic Review*, 93(1): 170–92.

Anderson, James E., and Yoto 5. Yotov. 2010. "The Changing Incidence of Geography." *American Economic Review*, 100(5): 2157–86.

Anderson, James E., Mario Larch, and Yoto V. Yotov. 2018. "GEPPML: General equilibrium analysis with PPML." *World Economy*, 41(10).

Chaney, Thomas. 2018. "The Gravity Equation in International Trade: An Explanation." *Journal of Political Economy*, 126(1): 150–77.

Costinot, Arnaud, and Andrés Rodríguez-Clare. 2014. "Trade Theory with Numbers: Quantifying the Consequences of Globalization." In *Handbook of International Economics*. Vol. 4, , ed. Elhanan Helpman, Kenneth Rogoff and Gita Gopinath, Chapter 4, 197–261. Amsterdam: Elsevier.

Dornbusch, Rudiger, Stanley Fischer, and Paul A. Samuelson. 1977. "Comparative Advantage, Trade, and Payments in a Ricardian Model with a Continuum of Goods." *American Economic Review*, 67(5): 823–39.

Eaton, Jonathan, and Samuel Kortum. 2010. "Technology in the Global Economy: A Framework for Quantitative Analysis." University of Chicago, unpublished manuscript.

Head, Keith, and Thierry Mayer. 2014. "Gravity Equations: Workhorse, Toolkit, and Cookbook." In *Handbook of International Economics*. Vol. 4, , ed. Elhanan Helpman, Kenneth Rogoff and Gita Gopinath, Chapter 3, 131–195. Amsterdam: Elsevier.

Muendler, Marc-Andreas. 2017. "Trade, Technology, and Prosperity: An Account of Evidence from a Labor-market Perspective." *World Trade Organization Staff Working Paper*, ERSD-2017-15. Background study for the World Trade Report 2017 *Trade, Technology and Jobs*.

Muendler, Marc-Andreas. 2018. "Außenhandel, Arbeitsmärkte und die globale Verteilung der Einkommen (The Global Distribution of Incomes, International Trade and the Labor Market)." *Wirtschaftsdienst/Economic Review*, 98(13): 50–61. English translation at *econ.ucsd.edu/muendler/download/misc/globalization-inequality.pdf*.

Muendler, Marc-Andreas. 2020. "The Economics of Globalization." University of California, San Diego, unpublished textbook manuscript.

Yoyov, Yoyo V., Roberta Piermartini, José-Antonio Monteiro, and Mario Larch. 2016. *An Advanced Guide to Trade Policy Analysis: The Structural Gravity Model.* Geneva: World Trade Organization.