

ECON 745 Advanced Topics in International Trade

Spring 2017

Instructor:

Eunhee Lee

Email: lee@econ.umd.edu

Office: 4118K Tydings

Office hours: by appointment

Overview

This course focuses on a firm-level approach to the study of international trade and on selected topics in trade. The course is intended to consolidate the tools and models learned in ECON 742, and train students in frontier research methods. The course will cover topics related to trade and heterogeneous firms, quantitative trade models, multinationals and vertical specialization, trade and firm productivity, trade costs, and distributional effects of trade. Students will learn empirical and quantitative skills to bring theoretical models to data. Successful students should be ready to start exploring potential dissertation topics in international trade by the end of the semester.

Students are expected to know the materials covered in ECON 742. If you want to take this course but did not take ECON 742, you need to talk with the instructor prior to registration.

Course Requirements and Grades

The main course requirements are: (a) problem sets and referee reports (30%); (b) in-class presentations (30%); and (c) paper proposal (40%). These requirements are important to develop skills required to work on a dissertation in international trade. Class participation is very important. Students are expected to read assigned materials before they come to the class and actively participate in class discussion.

(a) Problem sets and summary papers (30%)

There will be four problem sets over the semester. They include both analytic and quantitative exercises. For quantitative exercises, students should be familiar with Matlab. Students can work together, but each one should write own answer. Problem sets are due a week from the assigned date. I will assign problem sets tentatively on the following dates: 1/30, 2/8, 2/20, 3/15.

Before every class, you should prepare a short summary paper (up to two pages with at least 1.5 spacing) for all papers marked (*) on the reading list of that class. This paper should summarize and critically assess research question, contribution, main theoretic and quantitative findings of the assigned papers. It also needs to relate the assigned papers with one another. You can make suggestions for the papers, if any. Reports are due at the beginning of every class.

(b) In-class presentations (30%)

Students will present twice over the course. The first presentation will be scheduled in late-April. In the first presentation, students will present one of recent NBER working papers or recent job market papers in the field of international trade. Before the presentation, you should bring your own reading list of papers (up to 10 papers) that you are interested in by Apr 5. Then, you will talk with me to decide which paper to present. You are expected to read and understand the papers on your own list before a discussion with me.

The second presentation will be scheduled in early-May, and students will present their own research proposal. The reading list that you have made for the first presentation should motivate the research idea presented in the second presentation and the research proposal. The length of each presentation will depend on the class size.

(c) Paper proposal (40%)

This research proposal should be concise (up to 5 pages with at least 1.5 spacing) but include all of these elements: (1) your research question; (2) motivating evidence; (3) why we should care about it; (4) literature review; (5) what you want to add to the literature; and (6) tentative plan to further develop your idea. This is a semester-long assignment. That being said, handing in a proposal at the end of the semester without any prior discussion with me will never work. It is important to discuss your idea with me and keep me updated about your progress over the semester. You should meet me at least once a month to keep me updated. (not required in Jan) A successful proposal will be ideally a great start point for your third-year paper. The proposal is due on May 26.

Course Outline and Readings

There is no required textbook for this course. Classes will be based on lecture notes which will be posted after each class. For those who need some reference, I recommend the following manuscripts:

- J. Eaton and S. Kortum, *Technology in the Global Economy: A Framework for Quantitative Analysis*.
- T. Allen and C. Arkolakis, [*Elements of Advanced International Trade*](#).

(†) To be covered in class

(*) Prepare a summary paper on these articles

A. Quantitative Framework for Gravity Trade Models

Wed, 1/25/16 – Course overview, empirical evidence, and basic tools

- (†) Dixit, Avinash K., and Joseph E. Stiglitz. "Monopolistic Competition and Optimum Product Diversity." *The American Economic Review* 67, no. 3 (1977): 297–308.
- J. Tinbergen (Jan), and Erasmus School of Economics (ESE). *Shaping the World Economy; Suggestions for an International Economic Policy*. Twentieth Century Fund, New York, 1962.

Mon, 1/30/16 – Armington model and Ricardian model: Love of variety and technological difference

- (†)(*) Anderson, James E. "A Theoretical Foundation for the Gravity Equation." *The American Economic Review* 69, no. 1 (1979): 106–116.
- (†)(*) Dornbusch, R, S Fischer, and P A Samuelson. "Comparative Advantage, Trade, and Payments in a Ricardian Model with a Continuum of Goods." *The American Economic Review* 67, no. 5 (December 1977): 823–839.
- (†)(*) Eaton, Jonathan, and Samuel Kortum. "Technology, Geography, and Trade." *Econometrica* 70, no. 5 (September 2002): 1741–1779.
- Anderson, James E., and Eric Van Wincoop. "Gravity with Gravitas: A Solution to the Border Puzzle." *The American Economic Review* 93, no. 1 (2003): 170–192.
- Eaton, Jonathan, and Samuel Kortum. "Putting Ricardo to Work." *Journal of Economic Perspectives* 26, no. 2 (Spring 2012): 65–90.
 - Online appendix:
https://assets.aeaweb.org/assets/production/articles-attachments/jep/app/2602_Eaton_Kortum_app.pdf
- Wilson, Charles A. "On the General Structure of Ricardian Models with a Continuum of Goods: Applications to Growth, Tariff Theory, and Technical Change." *Econometrica* 48, no. 7 (1980): 1675–1702.

Wed, 2/1/16 – Quantifying multi-industry extensions of the Ricardian model

- (+)(*) Donaldson, Dave. "Railroads of the Raj: Estimating the Impact of Transportation Infrastructure." *American Economic Review* (Forthcoming).
- (+)Costinot, Arnaud, Dave Donaldson, and Ivana Komunjer. "What Goods Do Countries Trade? A Quantitative Exploration of Ricardo's Ideas." *The Review of Economic Studies* 79, no. 2 (September 28, 2011): 581–608.
- (*) Chor, Davin. "Unpacking Sources of Comparative Advantage: A Quantitative Approach." *Journal of International Economics* 82, no. 2 (November 2010): 152–67.
- Waugh, Michael E. "International Trade and Income Differences." *American Economic Review* 100, no. 5 (December 2010): 2093–2124.
- Fieler, Ana Cecília. "Nonhomotheticity and Bilateral Trade: Evidence and a Quantitative Explanation." *Econometrica* 79, 4 (July 1, 2011): 1069–1101.

Mon, 2/6/16 - Monopolistic competition models

- (+)(*) Melitz, M J. "The Impact of Trade on Intra - Industry Reallocations and Aggregate Industry Productivity." *Econometrica* 71 (2003): 1695–1725.
- (+)(*) Chaney, Thomas. "Distorted Gravity: The Intensive and Extensive Margins of International Trade." *American Economic Review* 98, no. 4 (September 2008): 1707–21.
- Krugman, Paul. "Scale Economies, Product Differentiation, and the Pattern of Trade." *American Economic Review* 70, no. 5 (December 1980): 950–959.
- Hopenhayn, Hugo A. "Entry, Exit, and Firm Dynamics in Long Run Equilibrium." *Econometrica* 60, no. 5 (1992): 1127–50.

Wed, 2/8/16 - Models with a variable markup

- (+)(*) Bernard, Andrew B, Jonathan Eaton, J Bradford Jensen, and Samuel Kortum, "Plants and Productivity in International Trade." *American Economic Review* 93, no. 4 (September 2003): 1268–1290.
- (+)(*) Atkeson, Andrew, and Ariel Burstein. "Pricing-to-Market, Trade Costs, and International Relative Prices." *American Economic Review* 98, no. 5 (December 2008): 1998–2031.
- Edmond, Chris, Virgiliu Midrigan, and Daniel Yi Xu. "Competition, Markups, and the Gains from International Trade." *American Economic Review* 105, no. 10 (October 2015): 3183–3221.
- De Loecker, Jan, Pinelopi K. Goldberg, Amit K. Khandelwal, and Nina Pavcnik. "Prices, Markups, and Trade Reform." *Econometrica* 84, no. 2 (March 1, 2016): 445–510.

Mon, 2/13/16 – Extensions to imperfect competition models and quantification

- (+)(*) Eaton, Jonathan, Samuel Kortum, and Francis Kramarz. “An Anatomy of International Trade: Evidence From French Firms.” *Econometrica* 79, no. 5 (2011): 1453–1498.
- (+) Arkolakis, Costas. “Market Penetration Costs and the New Consumers Margin in International Trade.” *Journal of Political Economy* 118, no. 6 (December 1, 2010): 1151–99.
- (*) Arkolakis, Costas, Svetlana Demidova, Peter J. Klenow, and Andres Rodriguez-Clare. “Endogenous Variety and the Gains from Trade.” *American Economic Review Papers and Proceedings*, 98, no. 2 (May 2008): 444–50.
- (*) Yeaple, Stephen Ross. “A Simple Model of Firm Heterogeneity, International Trade, and Wages.” *Journal of International Economics* 65, no. 1 (January 2005): 1–20.
- Bustos, Paula. “Trade Liberalization, Exports, and Technology Upgrading: Evidence on the Impact of MERCOSUR on Argentinian Firms.” *American Economic Review* 101, no. 1 (March 2011): 304–40.
- Melitz, Marc J., and Gianmarco I. P. Ottaviano. “Market Size, Trade, and Productivity.” *The Review of Economic Studies* 75, no. 1 (January 1, 2008): 295–316.
- Helpman, Elhanan, Marc J. Melitz, and Stephen R. Yeaple. “Export versus FDI with Heterogeneous Firms.” *The American Economic Review* 94, no. 1 (March 1, 2004): 300–316.
- Bernard, Andrew B., Stephen J. Redding, and Peter K. Schott. “Comparative Advantage and Heterogeneous Firms.” *The Review of Economic Studies* 74, no. 1 (January 1, 2007): 31–66.
- Bernard, Andrew B., Stephen J. Redding, and Peter K. Schott. “Multiproduct Firms and Trade Liberalization.” *The Quarterly Journal of Economics*, 2011.

Wed, 2/15/16– General equilibrium of trade models: existence and uniqueness of equilibrium, and quantitative strategies

- (+)(*) Alvarez, Fernando, and Robert E. Lucas. “General Equilibrium Analysis of the Eaton–Kortum Model of International Trade.” *Journal of Monetary Economics* 54, no. 6 (September 2007): 1726–68.
- (+)(*) Allen, Treb, and Costas Arkolakis. “Trade and the Topography of the Spatial Economy.” *The Quarterly Journal of Economics* 129, no. 3 (August 1, 2014): 1085–1140.

- Allen, Treb, Costas Arkolakis, and Xiangliang Li. "On the Existence and Uniqueness of Trade Equilibria." Working Paper, 2015.
- (*) Allen, Treb, Costas Arkolakis, and Yuta Takahashi. "Universal Gravity." *NBER Working Paper Series* 20787 (December 2014).

Mon, 2/20/16 - Taking model to the data: counterfactual experiments to quantify various trade effects

- (+)(*) Dekle, Robert, Jonathan Eaton, and Samuel Kortum. "Global Rebalancing with Gravity: Measuring the Burden of Adjustment." *IMF Staff Papers* 55, no. 3 (January 2008): 511-540.
- (+)(*) Caliendo, Lorenzo, and Fernando Parro. "Estimates of the Trade and Welfare Effects of NAFTA." *The Review of Economic Studies* 82, no. 1 (January 2015): 1-44.
- (*) Adao, Rodrigo, Arnaud Costinot, and Dave Donaldson. "Nonparametric Counterfactual Predictions in Neoclassical Models of International Trade." *American Economic Review* (Forthcoming).
- Arrow, K J. "The Role of Securities in the Optimal Allocation of Risk-Bearing." *The Review of Economic Studies* 31, no. 2 (April 1964): 91-96.
- Costinot, Arnaud, and Andrés Rodríguez-Clare. "Trade Theory with Numbers: Quantifying the Consequences of Globalization." In *Handbook of International Economics*, edited by Gita Gopinath, Elhanan Helpman, and Kenneth Rogoff, Vol. 4, 2014.
- Head, Keith, and Thierry Mayer. "Gravity Equations: Workhorse, Toolkit, and Cookbook." In *Handbook of International Economics*, edited by Elhanan Helpman and Kenneth Rogoff Gita Gopinath, 4:131-95. *Handbook of International Economics*. Elsevier, 2014.
- Ossa, Ralph. "A 'New Trade' Theory of GATT/WTO Negotiations." *Journal of Political Economy* 119, no. 1 (February 1, 2011): 122-52.
- Parro, F. "Capital-Skill Complementarity and the Skill Premium in a Quantitative Model of Trade." *American Economic Journal: Macroeconomics* 5, no. 2 (2013): 72-117.

Wed, 2/22/16 - Quantifying welfare gains from trade

- (+)(*) Arkolakis, Costas, Arnaud Costinot, and Andrés Rodríguez-Clare. "New Trade Models, Same Old Gains?" *American Economic Review* 102, no. 1 (February 2012): 94-130.
- (+)(*) Atkeson, Andrew, and Ariel Tomás Burstein. "Innovation, Firm Dynamics, and International Trade." *Journal of Political Economy* 118, no. 3 (June 1, 2010): 433-84.

- (†)(*) Melitz, Marc J., and Stephen J. Redding. "New Trade Models, New Welfare Implications." *American Economic Review* 105, no. 3 (March 2015): 1105–46.
- Broda, C, and D E Weinstein. "Globalization and the Gains from Variety." *The Quarterly Journal of Economics* 121 (2006): 541–585.
- Arkolakis, Costas, Arnaud Costinot, Dave Donaldson, and Andrés Rodríguez-Clare. "The Elusive Pro-Competitive Effects of Trade." *NBER Working Paper Series* 21370 (July 2015).
- Atkin, David. "Trade, Tastes, and Nutrition in India." *American Economic Review* 103, no. 5 (August 2013): 1629–63.

Mon, 2/27/16 - Estimation of trade cost and trade elasticity

- (†)(*) Head, Keith, and John Ries. "Increasing Returns Versus National Product Differentiation as an Explanation for the Pattern of Us-Canada Trade." *American Economic Review* 91, no. 4 (2001): 858–876.
- (†)(*) Simonovska, Ina, and Michael E. Waugh. "The Elasticity of Trade: Estimates and Evidence." *Journal of International Economics* 92, no. 1 (January 2014): 34–50.
- Limão, Nuno, and Anthony J. Venables. "Infrastructure, Geographical Disadvantage, Transport Costs, and Trade." *The World Bank Economic Review* 15, no. 3 (October 1, 2001): 451–79.
- Atkin, David, and Dave Donaldson. "Who's Getting Globalized? The Size and Nature of Intranational Trade Costs." Working Paper, 2015.
- Anderson, James E., and Eric van Wincoop. "Trade Costs." *Journal of Economic Literature* 42, no. 3 (September 1, 2004): 691–751.
- Eaton, Jonathan, and Samuel Kortum. "Technology, Geography, and Trade." *Econometrica* 70, no. 5 (September 2002): 1741–1779.
- (†) Caliendo, Lorenzo, and Fernando Parro. "Estimates of the Trade and Welfare Effects of NAFTA." *The Review of Economic Studies* 82, no. 1 (January 2015): 1–44.
- Romalis, John. "NAFTA's and CUSFTA's Impact on International Trade." *Review of Economics and Statistics* 89, no. 3 (July 12, 2007): 416–35.
- Donaldson, Dave. "Railroads of the Raj: Estimating the Impact of Transportation Infrastructure." *American Economic Review* (Forthcoming).
- Bergstrand, Jeffrey H., Peter Egger, and Mario Larch. "Gravity Redux: Estimation of Gravity-Equation Coefficients, Elasticities of Substitution, and General Equilibrium Comparative Statics Under Asymmetric Bilateral Trade Costs." *Journal of International Economics* 89, no. 1 (January 2013): 110–21.

- Costinot, Arnaud, Dave Donaldson, and Ivana Komunjer. "What Goods Do Countries Trade? A Quantitative Exploration of Ricardo's Ideas." *The Review of Economic Studies* 79, no. 2 (September 28, 2011): 581–608.

B. Distributional Effects of International Trade

Wed, 3/1/16 – Basic theory: generalized Heckscher-Ohlin model

- (+)(*) Costinot, Arnaud, and Jonathan Vogel. "Matching and Inequality in the World Economy." *Journal of Political Economy* 118, no. 4 (August 1, 2010): 747–86.
- (+)(*) Burstein, Ariel, and Jonathan Vogel. "International Trade, Technology, and the Skill Premium." *Journal of Political Economy* (Forthcoming), 2016.
- Romalis, John. "Factor Proportions and the Structure of Commodity Trade." *American Economic Review* 94, no. 1 (March 2004): 67–97.
- (*) Bernard, Andrew B., Stephen J. Redding, and Peter K. Schott. "Comparative Advantage and Heterogeneous Firms." *The Review of Economic Studies* 74, no. 1 (January 1, 2007): 31–66.

Mon, 3/6/16 – Distributional effects of trade in developed countries: traditional mechanism and factor contents story

- (+)(*) Wood, Adrian. "How Trade Hurt Unskilled Workers." *The Journal of Economic Perspectives* 9, no. 3 (July 1995): 57–80.
- (+)(*) Feenstra, R, and G Hanson. "Global Production Sharing and Rising Inequality: A Survey of Trade and Wages," 146. *Handbook of International Trade*, 2001.
- (*) Berman, Eli, John Bound, and Zvi Griliches. "Changes in the Demand for Skilled Labor within U.S. Manufacturing: Evidence from the Annual Survey of Manufacturers." *The Quarterly Journal of Economics* 109, no. 2 (May 1994): 367–397.
- Revenga, Ana L. "Exporting Jobs?: The Impact of Import Competition on Employment and Wages in U.S. Manufacturing." *The Quarterly Journal of Economics* 107, no. 1 (February 1992): 255–284.

Wed, 3/8/16 - Distributional effects of trade in developed countries: relative gains from trade across industries, regions, and occupations

- (†)(*) Autor, David H., David Dorn, and Gordon H. Hanson. "The China Syndrome: Local Labor Market Effects of Import Competition in the United States." *American Economic Review* 103, no. 6 (2013): 2121–68.
- (*) Autor, David H., David Dorn, Gordon H. Hanson, and Jae Song. "Trade Adjustment: Worker Level Evidence." NBER Working Paper Series 19226 (July 2013).
- Autor, David H., David Dorn, and Gordon H. Hanson. "Untangling Trade and Technology: Evidence from Local Labour Markets." *The Economic Journal* 125, no. 584 (May 1, 2015): 621–46.
- (†)(*) Hummels, David, Rasmus Jørgensen, Jakob Munch, and Chong Xiang. "The Wage Effects of Offshoring: Evidence from Danish Matched Worker-Firm Data." *American Economic Review* 104, no. 6 (June 2014): 1597–1629.
- Ebenstein, Avraham, Ann Harrison, Margaret McMillan, and Shannon Phillips. "Estimating the Impact of Trade and Offshoring on American Workers Using the Current Population Surveys." *Review of Economics and Statistics* 96, no. 4 (2014): 581–95.
- Goos, Maarten, Alan Manning, and Anna Salomons. "Explaining Job Polarization: Routine-Biased Technological Change and Offshoring." *American Economic Review* 104, no. 8 (2014): 2509–26.

Mon, 3/20/16 – Distributional effects of trade in developed countries: product- and firm-level analyses

- (†)(*) Khandelwal, Amit. "The Long and Short (of) Quality Ladders." *Review of Economic Studies* 77, no. 4 (August 2010): 1450–1476.
- (*) Bloom, Nicholas, Mirko Draca, and John Van Reenen. "Trade Induced Technical Change? The Impact of Chinese Imports on Innovation, IT and Productivity." *The Review of Economic Studies* 83, no. 1 (January 1, 2016): 87–117.
- (†)(*) Pierce, Justin R., and Peter K. Schott. "The Surprisingly Swift Decline of US Manufacturing Employment." *American Economic Review* 106, no. 7 (July 2016): 1632–62.
- Kramarz, Francis. "Offshoring, Wages, and Employment: Evidence from Data Matching Imports, Firms, and Workers." *Working Paper*, 2008.
- Harrigan, James, Ariell Reshef, and Farid Toubal. "The March of the Techies: Technology, Trade, and Job Polarization in France, 1994 – 2007." NBER Working Paper Series 22110 (2016).

Wed, 3/22/16 – Distributional effects of trade in developing countries: are we living in the Heckscher-Ohlin world?

- (+)(*) Goldberg, Pinelopi Koujianou, and Nina Pavcnik. "Distributional Effects of Globalization in Developing Countries." *Journal of Economic Literature* 45, no. 1 (March 2007): 39–82.
- Goldberg, Pinelopi Koujianou, and Nina Pavcnik. "Trade, Inequality, and Poverty: What Do We Know? Evidence from Recent Trade Liberalization Episodes in Developing Countries." *Brookings Trade Forum, Globalization, Poverty, and Inequality*, January 2004, 223–269.
- (+)(*) Goldberg, Pinelopi Koujianou, and Nina Pavcnik. "Trade, Wages, and the Political Economy of Trade Protection: Evidence from the Colombian Trade Reforms." *Journal of International Economics* 66, no. 1 (May 2005): 75–105.
- Goldberg, Pinelopi, and Nina Pavcnik. "The Response of the Informal Sector to Trade Liberalization." *Journal of Development Economics* 72, no. 2 (December 2003): 463–496.
- Attanasio, Orazio, Pinelopi K. Goldberg, and Nina Pavcnik. "Trade Reforms and Wage Inequality in Colombia." *Journal of Development Economics* 74, no. 2 (August 2004): 331–66.
- Menezes-Filho, Naércio Aquino, and Marc-Andreas Muendler. "Labor Reallocation in Response to Trade Reform." *Working Paper*, 2011.
- (+)(*) Topalova, Petia. "Trade Liberalization, Poverty and Inequality: Evidence from Indian Districts." In *Globalization and Poverty*, 291–336. University of Chicago Press, 2007.
- Topalova, Petia. "Factor Immobility and Regional Impacts of Trade Liberalization: Evidence on Poverty from India." *American Economic Journal: Applied Economics* 2, no. 4 (October 2010): 1–41.

Mon, 3/27/16 - New explanation on the distributional effects of trade in developed countries: quality upgrading, regional variation, etc.

- (+)(*) Verhoogen, Eric A. "Trade, Quality Upgrading, and Wage Inequality in the Mexican Manufacturing Sector ." *Quarterly Journal of Economics* 123, no. 2 (May 2008): 489–530.
- Amiti, Mary, and Donald R. Davis. "Trade, Firms, and Wages: Theory and Evidence." *The Review of Economic Studies* 79, no. 1 (January 1, 2012): 1–36.
- Bustos, P. "The Impact of Trade Liberalization on Skill Upgrading. Evidence from Argentina." *Working Paper*, 2011.
- (*) Kovak, Brian K. "Regional Effects of Trade Reform: What Is the Correct Measure of Liberalization?" *The American Economic Review* 103, no. 5 (2013): 1960–76.
- Egger, Hartmut, and Udo Kreickemeier. "Firm Heterogeneity and the Labor Market Effects of Trade Liberalization." *International Economic Review* 50, no. 1 (February 1, 2009): 187–216.

- Helpman, Elhanan, Oleg Itskhoki, Marc-Andreas Muendler, and Stephen J. Redding. "Trade and Inequality: From Theory to Estimation." *The Review of Economic Studies* 0 (2016): 1–49.
- Davis, Donald R., and James Harrigan. "Good Jobs, Bad Jobs, and Trade Liberalization." *Journal of International Economics* 84, no. 1 (May 2011): 26–36.
- (+)(*) Porto, Guido G. "Using Survey Data to Assess the Distributional Effects of Trade Policy." *Journal of International Economics* 70, no. 1 (September 2006): 140–160.

Wed, 3/29/16 – Distributional effects of trade and the role of labor mobility

- (+)(*) Artuç, Erhan, Shubham Chaudhuri, and John McLaren. "Trade Shocks and Labor Adjustment: A Structural Empirical Approach." *American Economic Review* 100, no. 3 (June 2010): 1008–1045.
- (+)(*) Dix-Carneiro, Rafael. "Trade Liberalization and Labor Market Dynamics." *Econometrica* 82, no. 3 (May 1, 2014): 825–85.
- Cosar, A K. "Adjusting to Trade Liberalization: Reallocation and Labor Market Policies." *Working Paper*, 2013.
- Artuç, Erhan, and John McLaren. "Trade Policy and Wage Inequality: A Structural Analysis with Occupational and Sectoral Mobility." *Journal of International Economics* 97, no. 2 (November 2015): 278–94.
- Traiberman, Sharon. "Occupations and Import Competition." *Working Paper*, 2016.
- (*) Caliendo, Lorenzo, Maximiliano Dvorkin, and Fernando Parro. "The Impact of Trade on Labor Market Dynamics." *NBER Working Paper Series* 21149 (May 2015).

Mon, 4/3/16 – Assignment models for the distributional effect of trade

- (+) Costinot, Arnaud, and Jonathan Vogel. "Beyond Ricardo: Assignment Models in International Trade." *Annual Review of Economics* 7, no. 1 (2015): 31–62.
- (*) Costinot, Arnaud. "An Elementary Theory of Comparative Advantage." *Econometrica* 77, no. 4 (July 1, 2009): 1165–92.
- Ohnsorge, Franziska, and Daniel Trefler. "Sorting It Out: International Trade with Heterogeneous Workers." *Journal of Political Economy* 115, no. 5 (October 1, 2007): 868–92.
- Lagakos, David, and Michael E. Waugh. "Selection, Agriculture, and Cross-Country Productivity Differences." *American Economic Review* 103, no. 2 (2013): 948–80.

- Roy, Andrew Donald. "Some Thoughts on the Distribution of Earnings." *Oxford Economic Papers* 3, no. 2 (1951): 135–146.
- Teulings, Coen N. "Comparative Advantage, Relative Wages, and the Accumulation of Human Capital." *Journal of Political Economy* 113, no. 2 (2005): 425–61.
- Burstein, Ariel, Eduardo Morales, and Jonathan Vogel. "Accounting for Changes in Between-Group Inequality." NBER Working Paper Series 20855 (January 2015).
- Galle, Simon, A. Rodríguez-Clare, and Moises Yi. "Slicing the Pie: Quantifying the Aggregate and Distributional Effects of Trade." *Working Paper*, 2015.
- (+)(*) Lee, Eunhee. "Trade, Inequality, and the Endogenous Sorting of Heterogeneous Workers." *Working Paper* (2016.)
- Hsieh, Chang-Tai, Erik Hurst, Charles I. Jones, and Peter J. Klenow. "The Allocation of Talent and U.S. Economic Growth." *NBER Working Paper Series* 18693 (January 2013).
- Adao, Rodrigo. "Worker Heterogeneity, Wage Inequality, and International Trade: Theory and Evidence from Brazil." *Working Paper* (2016.)

Wed, 4/5/16 - Search and matching models for the distributional effect of trade

- (+)(*) Helpman, Elhanan, Oleg Itskhoki, and Stephen Redding. "Inequality and Unemployment in a Global Economy." *Econometrica* 78, no. 4 (July 2010): 1239–1283.
- (+)(*) Helpman, Elhanan, Oleg Itskhoki, Marc-Andreas Muendler, and Stephen J. Redding. "Trade and Inequality: From Theory to Estimation." *The Review of Economic Studies* 0 (2016): 1–49.
- Postel-Vinay, Fabien, and Jean-Marc Robin. "Equilibrium Wage Dispersion with Worker and Employer Heterogeneity." *Econometrica* 70, no. 6 (2002): 2295–2350.
- Grossman, Gene M, Elhanan Helpman, and Philipp Kircher. "Matching, Sorting, and the Distributional Effects of International Trade." *Working Paper*, 2015.
- Kambourov, Gueorgui. "Labour Market Regulations and the Sectoral Reallocation of Workers: The Case of Trade Reforms." *The Review of Economic Studies* 76, no. 4 (October 1, 2009): 1321–58.

Mon, 4/10/16 - Skill-biased trade or technical change?

- (+)(*) Acemoglu, Daron. "Patterns of Skill Premia." *The Review of Economic Studies* 70, no. 2 (April 2003): 199–230.

- (+)(*) Parro, F. "Capital-Skill Complementarity and the Skill Premium in a Quantitative Model of Trade." *American Economic Journal: Macroeconomics* 5, no. 2 (2013): 72–117.
- Monte, Ferdinando. "Skill Bias, Trade, and Wage Dispersion." *Journal of International Economics* 83, no. 2 (March 2011): 202–18.
- (+)(*) Burstein, Ariel, and Jonathan Vogel. "International Trade, Technology, and the Skill Premium." *Journal of Political Economy* (Forthcoming), 2016.
- Krusell, Per, Lee E. Ohanian, José-Víctor Ríos-Rull, and Giovanni L. Violante. "Capital-Skill Complementarity and Inequality: A Macroeconomic Analysis." *Econometrica* 68, no. 5 (2000): 1029–1053.
- (*) Burstein, Ariel, Javier Cravino, and Jonathan Vogel. "Importing Skill-Biased Technology." *American Economic Journal: Macroeconomics* 5, no. 2 (April 2013): 32–71.
- Buera, Francisco J., Joseph P. Kaboski, and Richard Rogerson. "Skill Biased Structural Change." *NBER Working Paper Series* 21165 (May 2015).
- Katz, Lawrence F., and Kevin M. Murphy. "Changes in Relative Wages, 1963–1987: Supply and Demand Factors." *The Quarterly Journal of Economics* 107, no. 1 (February 1, 1992): 35–78.
- Autor, David H., Frank Levy, and Richard J. Murnane. "The Skill Content of Recent Technological Change: An Empirical Exploration." *The Quarterly Journal of Economics* 118, no. 4 (November 1, 2003): 1279–1333.

C. Multinational Production, Firm Organization, and Productivity

Wed, 4/12/16 – Multinationals

- (*) Brainard, S. Lael. "An Empirical Assessment of the Proximity-Concentration Trade-off Between Multinational Sales and Trade." *The American Economic Review* 87, no. 4 (1997): 520–44.
- (+)(*) Helpman, Elhanan, Marc J. Melitz, and Stephen R. Yeaple. "Export versus FDI with Heterogeneous Firms." *The American Economic Review* 94, no. 1 (March 1, 2004): 300–316.
- (+)(*) Ramondo, Natalia, and Andrés Rodríguez-Clare. "Trade, Multinational Production, and the Gains from Openness." *Journal of Political Economy* 121, no. 2 (April 1, 2013): 273–322.
- Garetto, Stefania. "Input Sourcing and Multinational Production." *American Economic Journal: Macroeconomics* 5, no. 2 (April 2013): 118–51.
- Irarrazabal, Alfonso, Andreas Moxnes, and Luca David Opmolla. "The Margins of Multinational Production and the Role of Intrafirm Trade." *Journal of Political Economy* 121, no. 1 (February 1, 2013): 74–126.

- Arkolakis, Costas, Natalia Ramondo, Andrés Rodríguez-Clare, and Stephen Yeaple. "Innovation and Production in the Global Economy." *NBER Working Paper Series* 18972 (April 2013).

Mon, 4/17/16 - Vertical specialization and offshoring

- (†) Helpman, Elhanan. "A Simple Theory of International Trade with Multinational Corporations." *Journal of Political Economy* 92, no. 3 (June 1, 1984): 451-71.
- (†)(*) Yi, Kei - Mu. "Can Vertical Specialization Explain the Growth of World Trade?" *Journal of Political Economy* 111, no. 1 (2003): 52-102.
- Hummels, David, Jun Ishii, and Kei-Mu Yi. "The Nature and Growth of Vertical Specialization in World Trade." *Journal of International Economics, Trade and Wages*, 54, no. 1 (June 2001): 75-96.
- Arkolakis, Costas, and Ananth Ramanarayanan. "Vertical Specialization and International Business Cycle Synchronization." *Scandinavian Journal of Economics* 111, no. 4 (December 1, 2009): 655-80.
- (†)(*) Grossman, Gene M., and Esteban Rossi-Hansberg. "Trading Tasks: A Simple Theory of Offshoring." *American Economic Review* 98, no. 5 (December 2008): 1978-97.
- (*) Rodríguez-Clare, Andrés. "Offshoring in a Ricardian World." *American Economic Journal: Macroeconomics* 2, no. 2 (April 2010): 227-58.

Wed, 4/19/16 - Trade, firm organization, and productivity

- (*) Rodrik, Dani. "Closing the Technology Gap: Does Trade Liberalization Really Help?" *NBER Working Paper Series* 2654 (July 1988).
- (†)(*) De Loecker, Jan. "Product Differentiation, Multiproduct Firms, and Estimating the Impact of Trade Liberalization on Productivity." *Econometrica* 79, no. 5 (2011): 1407-1451.
- (†) Olley, G Steven, and Ariel Pakes. "The Dynamics of Productivity in the Telecommunications Equipment Industry." *Econometrica* 64, no. 6 (November 1996): 1263-1297.
- (†) Levinsohn, James, and Amil Petrin. "Estimating Production Functions Using Inputs to Control for Unobservables." *The Review of Economic Studies* 70, no. 2 (April 2003): 317-341.
- (†)(*) Caliendo, Lorenzo, and Esteban Rossi-Hansberg. "The Impact of Trade on Organization and Productivity." *The Quarterly Journal of Economics* 127, no. 3 (August 1, 2012): 1393-1467.
- Caliendo, Lorenzo, Ferdinando Monte, and Esteban Rossi-Hansberg. "The Anatomy of French Production Hierarchies." *Journal of Political Economy* 123, no. 4 (August 1, 2015): 809-52.

- Caliendo, Lorenzo, Giordano Mion, Luca David Oromolla, and Esteban Rossi-Hansberg. "Productivity and Organization in Portuguese Firms." *NBER Working Paper Series* 21811 (December 2015).

Week of 4/24/16 - Students' presentation of selected papers

Week of 5/1/16 and week of 5/8/16- Students' presentation of research proposal