

8402  
International Trade  
Fall 2016  
TuTh 9.15-11.15am, HMH 4-190

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## International Trade

**Course Outline:** This is a second-year graduate class for Econ PhD students, the sequel to 8401. The goal of the class is first, to give you an up-to-date overview of the literature, and second, to get you started on your own research. Relative to Tim's class (8401), there is some thematic overlap, but I will focus on different papers and spend more time on literature overview (breadth) and less on the details of particular models (depth).

**Textbook:** I will not follow any textbook closely.

**Reading:** A list of references for the topics covered in class (and some that will not be covered) is provided below. Starred items will be covered in detail. I may add and reclassify items and will keep the most updated version of the reference list posted on my website.

**Assessment:** Starting in the second class, you are required to prepare a half-page summary of the required reading for each class, due at the beginning of class. I will randomly call on one student per class to present their summary. There will also be two problem sets (due dates below). Finally, you will have to write a referee report on a job market paper in trade from the past few years (assignment of papers to be decided in class). You will present your reports in the last class of the semester.

**Course Organization:** Office hours are by appointment.

# Reference List

## 1 Why do countries trade?

1. Deardorff, A., "The General Validity of the Law of Comparative Advantage," *Journal of Political Economy*, 1980, December, 88(5), 941-57.
2. Costinot, A., (2009), "An Elementary Theory of Comparative Advantage," *Econometrica* 77 (4), 1165-1192.

### 1.1 Different factor endowments

#### 1.1.1 Theory

1. Dornbusch, Fischer and Samuelson (1980), "Heckscher-Ohlin Trade Theory with a Continuum of Goods", *QJE*
2. Deardorff, A., "The General Validity of the Heckscher-Ohlin Theorem", *American Economic Review*, 72(4), September, 1982, 683-94.
3. Bernard, Redding, and Schott (2007), "Comparative Advantage and Heterogeneous Firms," *Review of Economic Studies*, 31-66.
4. Helpman, E. and P. Krugman (1993), *Market Structure and Foreign Trade*, MIT press.
5. Costinot, A. and J. Vogel (2010), "Matching and Inequality in the World Economy," *JPE* 118 (4) 747-786.

#### 1.1.2 Evidence

1. Bernstein, J. and D. Weinstein (2002), "Do Endowments Determine the Location of Production? Evidence from National and International Data," *JIE*
2. Bowen, Leamer, and Sveikauskas (1987), "Multicountry, multifactor tests of the factor abundance theory," *AER*.
3. Davis and Weinstein (2001), "An account of global factor trade," *AER*.
4. \*Davis, D. and D. Weinstein (2002), "The Factor Content of Trade," *Handbook of International Trade*, E. Choi and J. Harrigan eds.
5. Fitzgerald, D. and J.-C. Hallak (2003), "Specialization, Factor Accumulation and Development," *JIE* 64 (2) 277-302.
6. Harrigan, J., "Technology, Factor Supplies, and International Specialization: Estimating the Neoclassical Model," *American Economic Review*, 1997.

7. Romalis, J., "Factor Proportions and the Structure of Commodity Trade," AER 94 (1), 67-97.
8. Schott, Peter K., "One Size Fits All? Heckscher-Ohlin Specialization in Global Production," American Economic Review, 2003, Vol. 93, 686-708.
9. Treffer, D., "International Factor Price Differences: Leontief was Right!," Journal of Political Economy, December, 1993, 101(6), 961-87.
10. Treffer (1995), "The case of the missing trade and other mysteries," AER.
11. Treffer, D. and S.C. Zhu, "The Structure of Factor Content Predictions," Journal of International Economics 82: 195-207, 2010.
12. Zimring, A. (2015), "Testing the Heckscher-Ohlin-Vanek Theory with a Natural Experiment," mimeo.

## 1.2 Different productivities

### 1.2.1 Theory

1. Dornbusch, Fischer, and Samuelson (1977), "Comparative advantage, trade, and payments in a Ricardian model with a continuum of goods," AER
2. \*Eaton and Kortum (2002), "Technology, Geography and Trade," Econometrica.
3. Alvarez and Lucas (2007), "General Equilibrium Analysis of the Eaton-Kortum Model of International Trade ," JME
4. Eaton, J. and S. Kortum (2012), "Putting Ricardo to Work," JEP 26 (2) 65-89.
5. Bernard, A., J. Eaton, B. Jensen and S. Kortum (2003), "Plants and Productivity in International Trade," AER 1268-1290.

### 1.2.2 Evidence

1. Costinot, A., D. Donaldson and I. Komunjer (2012), "What Goods Do Countries Trade? A Quantitative Exploration of Ricardo's Ideas," REStud 79, 581-608.
2. Costinot, A. and D. Donaldson (2012), "Ricardo's Theory of Comparative Advantage: Old Idea, New Evidence," AER P&P.

## 1.3 Different preferences

### 1.3.1 Theory

1. Matsuyama, K. (2000), "A Ricardian Model with a Continuum of Goods under Non-homothetic Preferences," JPE 108 (6) 1093-1120.
2. Caron, J., T. Fally and J. Markusen (2014), "International Trade Puzzles: A Solution Linking Production and Preferences," QJE

### 1.3.2 Evidence

1. Hunter, L., "The Contribution of Non-Homothetic Preferences to Trade", Journal of International Economics, 1991.
2. Hunter L. and J. Markusen, "Per-Capita Income as a Determinant of Trade", in Feenstra, 1988
3. Fieler, C. (2011), "Nonhomotheticity and Bilateral Trade: Evidence and a Quantitative Explanation," Econometrica 79 (4), 1069-1101.
4. Simonovska, I. (2015), "Income Differences and Prices of Tradeables: Insights from an Online Retailer," REStud 82 (4) 1612-1656.

## 1.4 Increasing returns

### 1.4.1 Theory

1. \*Krugman (1979), "Increasing Returns, Monopolistic Competition, and International Trade," JIE.
2. \*Krugman (1980), "Scale Economies, Product Differentiation, and the Pattern of Trade," AER.
3. Holmes, T. and J. Stevens (2002), "The Home Market and the Pattern of Trade: Round Three," mimeo.
4. Helpman, E. and P. Krugman (1993), *Market Structure and Foreign Trade*, MIT press.
5. \*Melitz (2003), "The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity," Econometrica.
6. Melitz and Ottaviano (2008), "Market Size, Trade, and Productivity." REStud.
7. Chaney (2008), "Distorted Gravity: Heterogeneous Firms, Market Structure and the Geography of International Trade," AER.

8. Flam and Helpman (1987), "Vertical Product Differentiation and North-South Trade," AER
9. Bernard, Redding, and Schott (2007), "Comparative Advantage and Heterogeneous Firms," Review of Economic Studies, 31-66.

#### 1.4.2 Evidence

1. Antweiler, W. and D. Trefler, "Increasing Returns and All That: A View from Trade," American Economic Review, March 2002, 92(1), 93-119.
2. \*Baldwin, R. and J. Harrigan (2011), "Zeros, Quality and Space: Trade Theory and Trade Evidence," AEJ-Micro 3, 60-88.
3. Hummels, D. and J. Levinsohn, "Monopolistic Competition and International Trade: Reconsidering the Evidence," Quarterly Journal of Economics, August 1995, 110(3), 799-836.
4. Debaere, P., "Monopolistic Competition and Trade Revisited: Testing the Model without Testing for Gravity," Journal of International Economics 66(1), 2005, 249-266.
5. Melitz, M. and S. Redding (2014), "Heterogeneous Firms and Trade," Handbook of International Economics, Volume 4, (eds Elhanan Helpman, Gita Gopinath and Kenneth Rogoff), Elsevier: North Holland, Chapter 1, 1-54.
6. Armenter, R. and M. Koren (2015), "Economies of Scale and the Size of Exporters," JEEA 13 (3) 482-511.
7. Hanson, G. and C. Xiang (2004), "The Home-Market Effect and Bilateral Trade Patterns," AER 94 (4) 1108-1129.
8. Feenstra and Romalis (2012), "International Prices and Endogenous Quality," QJE.
9. Schott (2004), "Across-Product Versus Within-Product Specialization in International Trade," QJE.
10. Crozet, M., K. Head and T. Mayer (2012), "Quality Sorting and Trade: Firm-Level Evidence for French Wine," REStud 79 (2), 609-644.
11. Head, K. and J. Ries (2001), "Increasing Returns Versus National Product Differentiation as an Explanation for the Pattern of US-Canada Trade," AER 91 (4) 858-876.
12. Hallak, J-C and J. Sivadasan (2013), "Product and Process Productivity: Implications for Quality Choice and Conditional Exporter Premia," JIE 91 (1) 53-67.
13. Manova, K. and Z. Zhang (2012), "Export Prices across Firms and Destinations," QJE 127 379-436.

14. Kugler, M. and E. Verhoogen (2012), "Prices, Plant Size and Product Quality," REStud 79 307-339.
15. Hottman, C., S. Redding and D. Weinstein (2015), "Quantifying the Sources of Firm Heterogeneity," QJE forthcoming.
16. Hummels, D. and P. Klenow (2005), "The Variety and Quality of a Nation's Exports," AER 95 (3) 704-723.
17. Harrigan, J., X. Ma and V. Shlychkov (2015), "Export Prices of US Firms," JIE 97, 100-111.
18. Johnson, R. (2012), "Trade and Prices with Heterogeneous Firms," JIE 86, 43-56.
19. Hallak, Juan Carlos (2006), "Product Quality and the Direction of Trade," JIE

## 2 Impediments to trade

### 2.1 Empirical evidence

1. Hummels, D. (2007), "Transportation Costs and International Trade in the Second Era of Globalization," JEP 21, 131-154.
2. Hummels, D. and S. Skiba (2004), "Shipping the Good Apples Out? An Empirical Confirmation of the Alchian-Allen Conjecture," JPE 112, 1384-1402.
3. Hillberry, R. and D. Hummels (2008), "Trade Responses to Geographic Frictions: A Decomposition using Micro Data," EER 52, 527-550.
4. Hummels, D. and G. Schaur (2013), "Time as a Trade Barrier," American Economic Review 103, 1-27.
5. Irarrazabal, A., A. Moxnes and L. Opromolla (2014), "The Tip of the Iceberg: A Quantitative Framework for Estimating Trade Costs," REStat forthcoming.
6. Rauch, J. (1999) "Networks Versus Markets in International Trade," Journal of International Economics 48, 7-35.
7. Das, Roberts and Tybout (2007), "Market Entry Costs, Producer Heterogeneity, and Export Dynamics," Ecma.
8. Roberts M. and J. Tybout (1997), The Decision to Export in Colombia: An Empirical Model of Entry with Sunk Costs, American Economic Review, 87(4), 545-564.
9. Eaton, J., M. Eslava, D. Jenkins, C. Krizan and J. Tybout (2014), "A Search and Learning Model of Export Dynamics," mimeo.

10. Ruhl, K. and J. Willis (2015), "New Exporter Dynamics," mimeo.
11. \*Fitzgerald, D., S. Haller and Y. Yedid-Levi (2016), "How Exporters Grow," mimeo.

## 2.2 Quantitative gravity models

1. Anderson and van Wincoop (2003), "Gravity with Gravitas: A Solution to the Border Puzzle," AER
2. \*Anderson and van Wincoop (2004), "Trade Costs," JEL.
3. Johnson, R. and A. Moxnes (2013), "Technology, Trade Costs, and the Pattern of Trade with Multi-Stage Production," mimeo.
4. Arkolakis, C. (2011), "Market Penetration Costs and the New Consumers Margin in International Trade," JPE 1151-1199.
5. Eaton, J., S. Kortum and F. Kramarz (2011), "An Anatomy of International Trade: Evidence from French Firms," Econometrica 1453-1498.
6. Chaney, T. (2014), "The Network Structure of International Trade," AER 104 (11) 3600-3634.
7. Waugh, M. (2010), "International Trade and Income Differences," AER 100, 2093-2124.
8. Yi, K-M (2003), "Can Vertical Specialization Explain the Growth of World Trade?" JPE 111 (1) 52-102.
9. Helpman, E., M. Melitz and Y. Rubinstein (2008), "Estimating Trade Flows: Trading Partners and Trading Volumes," QJE 123, 441-487.
10. Head, K. and T. Mayer (2014), "Gravity Equations: Workhorse, Toolkit and Cookbook," Handbook of International Economics, Volume 4, (eds Elhanan Helpman, Gita Gopinath and Kenneth Rogoff), Elsevier: North Holland, Chapter 3, 131-195.

## 3 How big are the gains from trade (liberalization)?

### 3.1 Reduced form evidence

1. Bernhofen and Brown (2004), "A Direct Test of the Theory of Comparative Advantage: the case of Japan ," JPE.
2. Bernhofen and Brown (2005), "An empirical assessment of the comparative advantage gains from trade: Evidence from Japan," AER.

3. Feyrer, J. (2009) "Distance, Trade, and Income - The 1967 to 1975 Closing of the Suez Canal as a Natural Experiment," NBER Working Paper 15557
4. Feyrer, J. (2009) "Trade and Income - Exploiting Time Series in Geography," NBER Working Paper 14910.
5. Zimring, A. and H. Etkes (2015), "When Trade Stops: Lessons From the 2007-2010 Gaza Blockade," JIE 95 (1), 16-27.
6. Pascali, L. (2014), "The Wind of Change: Maritime Technology, Trade and Economic Development," mimeo

### **3.2 Gains from reallocation across sectors**

1. Levchenko, A. and J. Zhang (2014), "Ricardian Productivity Differences and the Gains from Trade," European Economic Review, 65, 45-65.
2. Caliendo, L. and F. Parro (2015), "Estimates of the Trade and Welfare Effects of NAFTA," REStud 82 (1) 1-44.
3. Adao, R., A. Costinot and D. Donaldson (2015), "Nonparametric Counterfactual Predictions in Neoclassical Models of International Trade," mimeo.
4. Levchenko, A. and J. Zhang (2015), "The Evolution of Sectoral Productivity: Measurement and Implications," mimeo.

### **3.3 Gains from reallocation across firms**

1. \*Pavcnik, N. (2002), "Trade Liberalization, Exit, and Productivity Improvements: Evidence from Chilean Plants," REStud 69, 245-76.
2. Bernard, A., S. Redding and P. Schott (2011), "Multi-product Firms and Trade Liberalization," QJE, 126(3), 1271-1318.
3. Bernard, A., B. Jensen and P. Schott (2006), "Trade costs, Firms and Productivity," JME 53 917-937.
4. Iacovone, L., F. Rauch and A. Winters (2013), "Trade as an Engine of Creative Destruction: Mexican Experience with Chinese Competition," JIE 89 (2) 379-392.
5. Levinsohn, J. (1999), "Employment Response to International Liberalization in Chile," JIE 47 321-344.
6. Eslava, M., J. Haltiwanger, A. Kugler, M. Kugler (2013), "Trade and Market Selection: Evidence from Manufacturing Plants in Colombia," RED 16 (1) 135-158.



7. Trefler, D. (2004), "The Long and Short of the Canada-US Free Trade Agreement," AER 94 870-895.

### **3.4 Within-firm productivity gains**

1. Bustos, P. (2011), "Trade Liberalization, Exports and Technology Upgrading: Evidence on the Impact of MERCOSUR on Argentinean Firms," AER 101 (1), 304-340.
2. Lileeva, A. and D. Trefler (2010), "Improved Access to Foreign Markets Raises Plant-Level Productivity ... for Some Plants," QJE 125 (3), 1051-1099.
3. de Loecker, J. (2007), "Do Exports Generate Higher Productivity? Evidence from Slovenia," JIE 73, 69-98.
4. de Loecker, J. (2011), "Product Differentiation, Multi-Product Firms and Estimating the Impact of Trade Liberalization on Productivity," Econometrica 79 (5), 1407-1451.
5. de Loecker, J. (2013), "Detecting Learning by Exporting," AEJ: Micro, 5 (3), 1-21.
6. Atkin, D., A. Khandelwal and A. Osman, "Exporting and Firm Performance: Evidence from a Randomized Experiment," mimeo.

### **3.5 Gains due to variety**

1. \*Broda, C. and D. Weinstein (2006), "Globalization and the Gains from Variety," QJE.
2. Broda, C. and D. Weinstein (2004), "Variety Growth and World Welfare," AER P&P
3. Goldberg, P., A. Khandelwal, N. Pavcnik and P. Topalova (2010), "Imported Intermediate Inputs and Domestic Product Growth: Evidence from India" QJE 125 (4), 1727-1767.
4. Halpern, L., M. Koren and A. Szeidl (2015), "Imported Inputs and Productivity," AER forthcoming.

### **3.6 Gains due to increased competition**

1. Arkolakis, Costinot, Donaldson and Rodriguez Clare (2011), "The Elusive Pro-Competitive Effects of Trade," manuscript
2. Dhingra and Morrow (2012): "Monopolistic Competition and Optimum Product Diversity Under Firm Heterogeneity," manuscript.
3. Feenstra and Weinstein (2010), "Globalization, Markups and the U.S. Price Level," NBER.

4. Holmes, Hsu, and Lee (2014), "Allocative Efficiency, Mark-ups, and the Welfare Gains from Trade," JIE.
5. Midrigan, Edmond, and Xu (2015), "Competition, Markups, and the Gains from International Trade," AER.
6. Russ and de Blas (2010), "Understanding Markups in the Open Economy Under Bertrand Competition," NBER.
7. Zhelobodko, Kokovin, Parenti, and Thisse (2013), "Monopolistic Competition: Beyond the CES," *Econometrica*
8. Goldberg, P., J. de Loecker, A. Khandelwal and N. Pavcnik (2015), "Prices, Markups and Trade Reform," *Econometrica* forthcoming.
9. de Loecker, J. and F. Warzynski (2012), "Markups and Firm-Level Export Status," AER 102 (6), 2437-2471.
10. de Loecker, J. and J van Biesebroeck (2015), "The Effect of International Competition on Firm Productivity and Market Power," mimeo.
11. \*Atkeson and Burstein (2008), "Pricing-to-Market, Trade Costs, and International Relative Prices" *American Economic Review*, 1998-2031.

### 3.7 Quantitative general equilibrium analysis

1. \*Arkolakis, Costinot and Rodriguez Clare (2012), "New Trade Models, Same Old Gains," AER.
2. Ossa, R. (2015), "Why Trade Matters After All," JIE forthcoming.
3. Levchenko, A. and J. Zhang (2014), "Ricardian Productivity Differences and the Gains from Trade," *European Economic Review*, 65, 45-65.
4. Armenter, R. and M. Koren (2014), "A Balls-and-Bins Model of Trade," AER 104 (7) 2127-2151.
5. Simonovska, I. and M. Waugh (2014), "Trade Models, Trade Elasticities and the Gains from Trade," NBER Working Paper 20495.
6. Melitz, M. and S. Redding (2015), "New Trade Models, New Welfare Implications," *American Economic Review*, 105(3), 1105-1146.
7. Head, K., T. Mayer and M. Thoenig (2014), "Welfare and Trade Without Pareto," *American Economic Review Papers and Proceedings*, 104(5): 310-316.

8. Donaldson, D. (2012), "Railroads of the Raj: Estimating the Impact of Transportation Infrastructure," AER
9. Dekle, R., J. Eaton and S. Kortum (2008), "Global Rebalancing with Gravity: Measuring the Burden of Adjustment," IMF Staff Papers (2008), Vol. 55, No.3, 511-540

## 4 What are the distributional consequences of trade (liberalization)?

### 4.1 Across factors within countries

1. \*Autor, Dorn and Hanson (2013), "The China Syndrome: Local Labor Market Effects of Import Competition in the United States," AER.
2. Goldberg and Pavcnik (2007), "Distributional Effects of Globalization in Developing Countries", JEL.
3. Davis and Harrigan (2011), "Good jobs, bad jobs, and trade liberalization" JIE.
4. Feenstra, R.C. and Hanson, G.H., "The Impact of Outsourcing and High-Technology Capital on Wages: Estimates for the United States, 1979-1990," Quarterly Journal of Economics, August 1999, 114(3), 907-40.
5. Verhoogen (2008), "Trade, Quality Upgrading, and Wage Inequality in the Mexican Manufacturing Sector," QJE.
6. Feenstra, R. and G. Hanson (1999), "The Impact of Outsourcing and High-Technology Capital on Wages: Estimates for the United States, 1979-1990," QJE.
7. Bustos, P. (2011), "The Impact of Trade Liberalization on Skill Upgrading: Evidence from Argentina"
8. Burstein and Vogel (2012), "International Trade, Technology, and the Skill Premium," manuscript
9. Helpman, Itskhoki, and Redding (2011), "Inequality and Unemployment in the Global Economy," Ecma.
10. Autor, D., D. Dorn, G. Hanson and J. Song (2014), "Adjustment to Trade: Worker Level Evidence," QJE forthcoming.
11. Helpman, E., O. Itskhoki, M. Muendler and S. Redding (2015), "Trade and Inequality: From Theory to Estimation," mimeo.

12. Harrison, A. and G. Hanson (1999), "Who Gains from Trade Reform? Some Remaining Puzzles," JDE 59 (1) 125-154.
13. Costinot, A. and J. Vogel (2010), "Matching and Inequality in the World Economy," JPE 118(4), 747-786

## 4.2 Across consumers within countries

1. \*Fajgelbaum and Khandelwal (2014), "Measuring the Unequal Gains From Trade," NBER WP 20331.
2. Atkin, D. (2013), "Trade, Tastes and Nutrition in India," AER 103 (5).
3. Atkin, D., B. Faber and M. Gonzalez-Navarro (2015), "Retail Globalization and Household Welfare: Evidence from Mexico," mimeo.

## 4.3 Across different countries

1. di Giovanni, J., A. Levchenko and J. Zhang (2014), "The Global Welfare Impact of China: Trade Integration and Technological Change," American Economic Journal: Macroeconomics, 6 (3), 153-183.

# 5 Trade policy

## 5.1 Normative and positive policy analysis

1. Helpman, E. and P. Krugman (1989), *Trade Policy and Market Structure*, MIT press.
2. Costinot, A., D. Donaldson, J. Vogel, and I. Werning (2015), "Comparative Advantage and Optimal Trade Policy," QJE 130 (2) 659-702.
3. K. Bagwell and R. Staiger, "The World Trade Organization: Theory and practice," Annu. Rev. of Econ, 2010, 223-256.
4. G. Grossman and E. Helpman, "Trade wars and trade talks," JPE 1995, 675-708
5. C. Broda, N. Limao, and D. Weinstein, "Optimal tariffs: The evidence," AER, 2009.
6. Ossa, R. (2014), "Trade Wars and Trade Talks with Data," AER 104 (2), 4104-4146.
7. Ossa, R. (2011), "A 'New Trade' Theory of GATT/WTO Negotiations," JPE 119 (1).
8. Ludema, R. and A. Mayda (2013), "Do Terms-of-Trade Effects Matter for Trade Agreements?," QJE 128 (4), pp.1837-1893.
9. C. Freund and E. Ornelas, "Regional trade agreements," Annu. Rev. Econ, 2010, 39-66.

## 5.2 Political economy of trade policy

1. G. Grossman and E. Helpman, "Protection for sale," AER 1994, 833-850
2. P. Goldberg and G. Maggi, "Protection for sale: An empirical investigation," AER 1999, 1135-1155

## 6 Economic geography

1. Allen and Arkolakis, "Trade and the Topography of the Spatial Economy," 2013, NBER working paper, 19181
2. Gaubert, "Firm Sorting and Agglomeration," 2012, mimeo
3. Redding, S. and D. Sturm (2008), "The Costs of Remoteness: Evidence from German Division and Reunification," American Economic Review, 98(5), 1766-1797.
4. Redding, S. (2011), "Economic Geography: a Review of the Theoretical and Empirical Literature," Chapter 16 in The Palgrave Handbook of International Trade.
5. Redding, S. and M. Turner (2014), "Transportation Costs and the Spatial Organization of Economic Activity," NBER Working Paper 20235.
6. Krugman (1991), "Increasing Returns and Economic Geography," JPE
7. Krugman and Venables (1995), "Globalization and the Inequality of Nations," QJE.
8. Holmes (2014), "An Alternative Theory of the Plant Size Distribution, with Geography and Intra- and International Trade," JPE
9. Desmet, K. and E. Rossi-Hansberg (2014), "Spatial Development," AER 104 (4) 1211-1243.
10. Donaldson, D. and R. Hornbeck (2015), "Railroads and American Economic Growth: A "Market Access" Approach," QJE forthcoming
11. Davis, D. (1998), "The Home Market, Trade and Industrial Structure," AER 88 (5), 1264-1276

## Schedule

1. Tuesday 25th October. Introduction. Heckscher-Ohlin. **Reading:** Davis & Weinstein (2002).
2. Thursday 27th October. Ricardian differences. **Reading:** Eaton & Kortum (2002).
3. Tuesday 1st November. Increasing returns. **Reading:** Krugman (1979), Krugman (1980).
4. Thursday 3rd November. Increasing returns and firm heterogeneity. **Reading:** Melitz (2003).
5. Tuesday 8th November. Increasing returns: quality vs productivity heterogeneity. **Reading:** Baldwin & Harrigan (2011).
6. Thursday 10th November. Impediments to trade I: Icebergs and gravity equations. **Reading:** Anderson & van Wincoop (2003).
7. Tuesday 15th November. Impediments to trade II: Fixed & sunk costs, learning. **Reading:** Fitzgerald, Haller & Yedid-Levi (2016).
8. Thursday 17th November. Measuring the gains from trade. **Reading:** Arkolakis, Costinot & Rodriguez-Clare (2012).
9. Tuesday 22nd November. Gains due to reallocation across & within firms. **Reading:** Pavcnik (2002).
10. Tuesday 29th November. Gains from variety and pro-competitive gains from trade. **Reading:** Broda & Weinstein (2006), Atkeson and Burstein (2008).
11. Thursday 1st December. Distributional impacts of trade. **Reading:** Autor, Dorn and Hanson (2013), Fajgelbaum and Khandelwal (2014).
12. Tuesday 6th December. Economic geography. **Reading:** TBD
13. Thursday 8th December. In-class presentation of referee reports.
14. Tuesday 13th December. In-class presentation of referee reports.

## Assignments

1. Thursday 10th November: First problem set due.
2. Tuesday 29th November: Second problem set due.
3. Tuesday 13th December: Referee reports due.