Empirical Topics in International Economics

March 31, 2015

Instructor:	Marc-Andreas Muendler
Office:	Economics 312
Office hours:	Thu 11:00a - 12:00n (or by appointment)
Phone:	(858) 534-4799
E-mail:	muendler@ucsd.edu
Class Time:	TueThu 12:30p - 1:50p
Classroom:	Sequoyah 244
Class Web Page:	econ.ucsd.edu/muendler/teach/15s/247

1 Course Objectives

This course examines empirical work in international trade and its theoretical foundations. On the theory side, the course considers the determinants of the trade pattern in goods and services, explanations of export-market participation and multinational activity at the firm level, as well as the interaction of international trade with the income distribution and commercial policy. The empirical part of the course presents tests of theories of international trade and international capital movements, and the analysis of their consequences for economic outcomes.

2 Prerequisites

Instructor's consent.

3 Readings

Textbooks: Feenstra (2004); Eaton and Kortum (2010); partly Bhagwati, Panagariya, and Srinivasan (1998)

Readings: See Class schedule and References.

The Eaton and Kortum textbook draft and readings are available through the class web page (see above). For each lecture, there are up to three types of readings. The *basic reading* is the textbook reference, or the classic article, on which a large part of the lecture notes will be based; you are *not* asked to write your weekly report on those. The *main* readings include original papers or book chapters, on which you are asked to write your weekly report; the main reading is a recent academic publication (rarely more than one) for you to understand and discuss. *Additional readings* are points of departure for related research questions; you may choose to write your weekly report on an additional reading.

Lecture slides are available for download from the course web page.

4 Paper reports

There are typically two lectures per week, and each lecture has designated *main readings* as well as *additional readings* on this syllabus.

You are asked to send me *one* paper report by e-mail per week, starting in week 2, either on the readings of the Tuesday lecture or on the readings of the Thursday lecture. You can pick among the main and the additional readings for your report. Please paste your report into the *body of the e-mail*. No report is due for lectures 1 and 2. Starting with Lecture 3 on April 7, there are two lectures per week through May 28; one report is due for each of these eight weeks. Note that there is a special Monday lecture on May 18 but not Thursday lecture on May 21. On lecture days when the main readings are followed by the remark "jointly" the report for the main readings has to be based on all the (short) main readings,

Your report should be no longer than two (2) paragraphs and provide a summary of the paper's main insights and lessons. For theoretical papers, and the occasional historic conceptual paper, the summary should describe the main hypothesis and building blocks of the model, recount the main steps of the reasoning in the derivation, and assess the novelty and generality of the model. For empirical papers, the summary should describe the main features of the data source, explain the empirical procedure and identification strategy, and assess the robustness and generality of the results. For each paper, the summary concludes with a brief assessment of the role and relevance of the paper in the literature.

The paper report e-mail is due *before* the respective class, at 12:00n of the day of class. For example, if you choose to review the main reading of the Tuesday lecture, then the report is due at 12:00n before the class on Tuesday.

5 Problem sets

Three problem sets will be distributed for the first three blocks of the quarter. The problem sets ask you derive key aspects of trade models that likely inform and discipline empirical work on related topics. Problem set 1 will cover Industry-level Trade Theory, problem set 2 Firm-level Trade Theory and problem set 3 Global Production. These three blocks, and their problem sets, are concentrated in the first part of the course so as to give you ample time for your project and presentation to be prepared during the second part of the course. Each problem set is given out close to the beginning of the according topic block (April 7, April 16 and April 30) and due upon conclusion of the according topic block (April 30, May 12). Also see the Class Schedule for dates.

6 **Project presentation**

The last week of class will be devoted to student presentations. By yourself or in groups of two or three, you will choose a recent research paper at the frontier of research in international trade and use work of your own to replicate or go beyond the paper you present. For this purpose, you will propose a paper of your choice by Monday, May 25 at 5pm. In rare cases, I may ask you to select another paper by Wednesday, May 27. The paper presentation should explain the paper's main insights in a style similar to a seminar and emphasize your own research work beyond the paper you present. Ideally, you will conclude with ideas for serious own follow-up research. The presentation should be based on slides.

7 Final exam

There will be a two-hour final exam on Monday, June 8.

8 Assessment

There are four components of assessment: eight paper reports (during weeks 2-9 of the quarter), three problem sets (throughout the first part of the quarter), the oral presentation (in week 9), and the final exam (during finals week). The final exam will count for 25 percent of the final letter grade; the paper reports, the problem sets, and the oral presentation also for 25 percent each. Strong class room participation throughout the quarter will be counted towards performance in the latter three categories.

9 Class Schedule

I. Foundations

1. Tue, March 31: Empirical Foundations

Basic reading: Eaton and Kortum (2010)/Ch. 2 (*Additional readings*: Bernard and Jensen 1995, Bernard, Jensen, Redding, and Schott 2007, Bernard, Jensen, and Schott 2009, Eaton, Kortum, and Kramarz 2004)

2. Thu, April 2: Analytic Foundations and the Gravity Equation Basic readings: Eaton and Kortum (2010)/Ch. 3, Feenstra (2004)/Ch. 5 Main reading: Anderson and van Wincoop (2003) (Additional readings: Armington 1969, Anderson 1979, Anderson and van Wincoop 2004)

II. Industry-level Trade Theory and Empirics

- 3. Tue, April 7: Technology in the Global Economy Basic reading: Eaton and Kortum (2010)/Ch. 4-6 (sections 4.1, 4.4, 5.1-5.4, 6.1-6.5) Main reading: Eaton and Kortum (2002) (Additional readings: Alvarez and Lucas 2007, Eaton, Kortum, and Kramarz 2011, Armenter and Koren 2014) PROBLEM SET 1 OUT
- 4. Thu, April 9: Endowment Differences and Trade Basic readings: Feenstra (2004)/Ch. 1-2, Bhagwati, Panagariya, and Srinivasan (1998)/Ch. 5-6 Main reading: Ohlin (1931)
- 5. Tue, April 14: Many Goods, Many Factors and Evidence Basic readings: Feenstra (2004)/Ch. 3, Bhagwati, Panagariya, and Srinivasan (1998)/Ch. 8 Main reading: Davis and Weinstein (2001) (Additional readings: Leontief 1953, Trefler 1995, Bernhofen and Brown 2004)
- III. Firm-level Trade Theory and Empirics

 6. Thu, April 16: Heterogeneity with Fixed Costs of Exporting Basic reading: Melitz (2003) Main reading: Das, Roberts, and Tybout (2007) (Additional readings: Melitz and Trefler 2012, Bernard, Redding, and Schott 2007, Chaney 2008, Melitz and Redding 2014a) PROBLEM SET 1 DUE, PROBLEM SET 2 OUT

- 7. Tue, April 21: Exporter Heterogeneity and the Size Distribution of Firms Main readings: Axtell (2001), Eaton, Kortum, and Kramarz (2004), Bernard, Jensen, Redding, and Schott (2007), cumulatively (Additional readings: Roberts and Tybout 1997, Clerides, Lach, and Tybout 1998, Gibrat 1931, Sutton 1997)
- 8. Thu, April 23: Intermission on Multidimensional Panel Data Main reading: Abowd, Kramarz, and Woodcock (2008) (Additional readings: Abowd, Kramarz, and Margolis 1999, Moreira 2008)
- 9. Tue, April 28: Multi-product Firms Main reading: Eckel and Neary (2010) (Additional readings: Arkolakis, Ganapati, and Muendler 2014, Bernard, Redding, and Schott 2011)
- **IV. Global Production**
- **10. Thu, April 30:** Offshoring and Trade in Value Added
 - Main readings: Koopman, Wang, and Wei (2014), Johnson and Noguera (2012) (*Additional readings*: Johnson 2014, Antràs, Chor, Fally, and Hillberry 2012) PROBLEM SET 2 DUE, PROBLEM SET 3 OUT
- 11. Tue, May 5: Multinational Production and Firm Boundaries Basic reading: Feenstra (2004)/Ch. 11 Main reading: Tintelnot (2014) (Additional readings: Brainard (1997), Ekholm, Forslid, and Markusen 2007, Nunn and Trefler 2008, Antràs and Yeaple 2014)
- 12. Thu, May 7: Offshoring and Trade in Tasks Main reading: Grossman and Rossi-Hansberg (2008) (Additional readings: Leamer and Storper 2001, Levy and Murnane 2004, Blinder 2009, Jensen and Kletzer 2010)
- V. Globalization, Welfare and Comparative Advantage
- 13. Tue, May 12: Gravity Revisited Main reading: Head and Mayer (2014) (Additional readings: Helpman, Melitz, and Rubinstein 2008, Disdier and Head 2008, Simonovska and Waugh 2014) PROBLEM SET 3 DUE
- 14. Thu, May 14: Welfare Gains from Trade Main readings: Melitz and Redding (2015), Arkolakis, Costinot, and Rodríguez-Clare (2012) (Additional reading: Costinot and Rodríguez-Clare 2014, Melitz and Redding 2014b)
- **15. Mon, May 18, 10:00a-11:20a (special date):** Determinants of Comparative Advantage *Main readings*: Costinot, Donaldson, and Komunjer (2012), Chor (2010)
- **16. Tue, May 19:** Empirical Dynamics of Comparative Advantage *Main readings*: Levchenko and Zhang (2011), Hanson, Lind, and Muendler (2013)

Mon, May 25: PROPOSAL FOR PAPER PRESENTATION DUE

VI. Local Impacts of Global Markets

- 17. Tue, May 26: Determinants and Consequences of Multinational Firm Activity Basic reading: Feenstra (2004)/Ch. 11 Main readings: Carr, Markusen, and Maskus (2001), Blonigen, Davies, and Head (2003) and Carr, Markusen, and Maskus (2003), jointly (Additional reading: Muendler and Becker 2010, Helpman 2006)
- **18. Thu, May 28:** Trade and Labor-market Outcomes

Main readings: Helpman, Itskhoki, and Redding (2010), Autor, Dorn, and Hanson (2013) (*Additional readings*: Harrison, McLaren, and McMillan 2011, Artuç, Chaudhuri, and McLaren (2010), Amiti and Davis (2011), Bazzi, Menezes-Filho, and Muendler 2014)

Fri, May 29: SCHEDULE OF STUDENT PRESENTATIONS OUT

- **Tue, June 2:** STUDENT PRESENTATIONS
- **Thu, June 4:** Student Presentations Problem set 3 DUE
- Mon, June 8: FINAL EXAM 11:30am-1:30pm

References

- ABOWD, J. M., F. KRAMARZ, AND D. N. MARGOLIS (1999): "High Wage Workers and High Wage Firms," *Econometrica*, 67(2), 251–333.
- ABOWD, J. M., F. KRAMARZ, AND S. WOODCOCK (2008): "Econometric Analyses of Linked Employer-Employee Data," in *The econometrics of panel data*, ed. by L. Mátyás, and P. Sevestre, vol. 46 of *Advanced Studies in Theoretical and Applied Econometrics*, chap. 22, pp. 727–760. Springer, Berlin.
- ALVAREZ, F., AND R. E. J. LUCAS (2007): "General Equilibrium Analysis of the Eaton-Kortum Model of International Trade," Journal of Monetary Economics, 54(6), 1726–68.
- AMITI, M., AND D. R. DAVIS (2011): "Trade, Firms, and Wages: Theory and Evidence," *Review of Economic Studies*, 79(1), 1–36.
- ANDERSON, J. E. (1979): "A Theoretical Foundation for the Gravity Equation," American Economic Review, 69(1), 106–16.
- ANDERSON, J. E., AND E. VAN WINCOOP (2003): "Gravity with Gravitas: A Solution to the Border Puzzle," American Economic Review, 93(1), 170–92.
- (2004): "Trade Costs," Journal of Economic Literature, 42(3), 691–751.
- ANTRÀS, P., D. CHOR, T. FALLY, AND R. HILLBERRY (2012): "Measuring the Upstreamness of Production and Trade Flows," *American Economic Review*, 102(3), 412–16.
- ANTRÀS, P., AND S. R. YEAPLE (2014): "Multinational Firms and the Structure of International Trade," in *Handbook of International Economics*, ed. by E. Helpman, K. Rogoff, and G. Gopinath, vol. 4, chap. 2, pp. 55–130. Elsevier, Amsterdam.
- ARKOLAKIS, C., A. COSTINOT, AND A. RODRÍGUEZ-CLARE (2012): "New Trade Models, Same Old Gains?," American Economic Review, 102(1), 94–130.
- ARKOLAKIS, C., S. GANAPATI, AND M.-A. MUENDLER (2014): "The Extensive Margin of Exporting Products: A Firm-level Analysis," University of California, San Diego, unpublished manuscript (earlier version *NBER Working Paper*, 16641).

- ARMENTER, R., AND M. KOREN (2014): "A Balls-and-Bins Model of Trade," American Economic Review, 104(7), 2127–51.
- ARMINGTON, P. S. (1969): "A Theory of Demand for Products Distinguished by Place of Production," International Monetary Fund Staff Papers, 16(1), 159–178.
- ARTUÇ, E., S. CHAUDHURI, AND J. MCLAREN (2010): "Trade Shocks and Labor Adjustment: A Structural Empirical Approach," *American Economic Review*, 100(3), 1008–1045.
- AUTOR, D. H., D. DORN, AND G. H. HANSON (2013): "The China Syndrome: Local Labor Market Effects of Import Competition in the United States," *American Economic Review*, 103(6), 2121–68.
- AXTELL, R. L. (2001): "Zipf Distribution of U.S. Firm Sizes," Science, 293(5536), 1818-20.
- BAZZI, S., N. A. MENEZES-FILHO, AND M.-A. MUENDLER (2014): "Labor Reallocation in Response to Trade Reform," University of California, San Diego, unpublished manuscript.
- BERNARD, A. B., AND J. B. JENSEN (1995): "Exporters, Jobs, and Wages in U.S. Manufacturing: 1976-1987," Brookings Papers on Economic Activity: Microeconomics, 1995(1), 67–112.
- BERNARD, A. B., J. B. JENSEN, S. J. REDDING, AND P. K. SCHOTT (2007): "Firms in International Trade," Journal of Economic Perspectives, 21(3), 105–30.
- BERNARD, A. B., J. B. JENSEN, AND P. K. SCHOTT (2009): "Importers, Exporters, and Multinationals: A Portrait of Firms in the U.S. that Trade Goods," in *Producer Dynamics: New Evidence from Micro Data*, ed. by T. Dunne, J. B. Jensen, and M. J. Roberts, vol. 68 of *Studies in Income and Wealth*, chap. 14, pp. 513–552. University of Chicago Press, Chicago.
- BERNARD, A. B., S. J. REDDING, AND P. K. SCHOTT (2007): "Comparative Advantage and Heterogeneous Firms," *Review of Economic Studies*, 74(1), 31–66.
- (2011): "Multiproduct Firms and Trade Liberalization," *Quarterly Journal of Economics*, 126(3), 1271–1318.
- BERNHOFEN, D. M., AND J. C. BROWN (2004): "A Direct Test of the Theory of Comparative Advantage: The Case of Japan," *Journal of Political Economy*, 112(1), 48–67.
- BHAGWATI, J. N., A. PANAGARIYA, AND T. N. SRINIVASAN (1998): Lectures on International Trade. MIT Press, Cambridge, Massachusetts, 2nd edn.
- BLINDER, A. S. (2009): "How Many U.S. Jobs Might Be Offshorable?," World Economics, 10(2), 41-78.
- BLONIGEN, B. A., R. B. DAVIES, AND K. HEAD (2003): "Estimating the Knowledge-Capital Model of the Multinational Enterprise: Comment," *American Economic Review*, 93(3), 980–994.
- BRAINARD, S. L. (1997): "An Empirical Assessment of the Proximity-Concentration Trade-off between Multinational Sales and Trade," American Economic Review, 87(4), 520–544.
- CARR, D. L., J. R. MARKUSEN, AND K. E. MASKUS (2001): "Estimating the Knowledge-Capital Model of the Multinational Enterprise," *American Economic Review*, 91(3), 693–708.
- (2003): "Estimating the Knowledge-Capital Model of the Multinational Enterprise: Reply," *American Economic Review*, 93(3), 995–1001.
- CHANEY, T. (2008): "Distorted Gravity: The Intensive and Extensive Margins of International Trade," American Economic Review, 98(4), 1707–21.
- CHOR, D. (2010): "Unpacking Sources of Comparative Advantage: A Quantitative Approach," Journal of International Economics, 82(2), 152–67.

- CLERIDES, S. K., S. LACH, AND J. R. TYBOUT (1998): "Is Learning by Exporting Important? Micro-dynamic Evidence from Colombia, Mexico, and Morocco," *Quarterly Journal of Economics*, 113(3), 903–47.
- COSTINOT, A., D. DONALDSON, AND I. KOMUNJER (2012): "What Goods Do Countries Trade? A Quantitative Exploration of Ricardo's Ideas," *Review of Economic Studies*, 79(2), 581–608.
- COSTINOT, A., AND A. RODRÍGUEZ-CLARE (2014): "Trade Theory with Numbers: Quantifying the Consequences of Globalization," in *Handbook of International Economics*, ed. by E. Helpman, K. Rogoff, and G. Gopinath, vol. 4, chap. 4, pp. 197–261. Elsevier, Amsterdam.
- DAS, S., M. J. ROBERTS, AND J. R. TYBOUT (2007): "Market Entry Costs, Producer Heterogeneity, and Export Dynamics," *Econometrica*, 75(3), 837–873.
- DAVIS, D. R., AND D. E. WEINSTEIN (2001): "An Account of Global Factor Trade," American Economic Review, 91(5), 1423–53.
- DISDIER, A. C., AND K. HEAD (2008): "The Puzzling Persistence of the Distance Effect on Bilateral Trade," *Review of Economics and Statistics*, 90(1), 37–48.
- EATON, J., AND S. KORTUM (2002): "Technology, Geography, and Trade," Econometrica, 70(5), 1741–79.

—— (2010): "Technology in the Global Economy: A Framework for Quantitative Analysis," University of Chicago, unpublished manuscript.

- EATON, J., S. KORTUM, AND F. KRAMARZ (2004): "Dissecting Trade: Firms, Industries, and Export Destinations," American Economic Review: Papers and Proceedings, 94(2), 150–54.
- —— (2011): "An Anatomy of International Trade: Evidence from French Firms," Econometrica, 79(5), 1453–98.
- ECKEL, C., AND J. P. NEARY (2010): "Multi-Product Firms and Flexible Manufacturing in the Global Economy," *Review of Economic Studies*, 77(1), 188–217.
- EKHOLM, K., R. FORSLID, AND J. R. MARKUSEN (2007): "Export-Platform Foreign Direct Investment," Journal of the European Economic Association, 5(4), 776–795.
- FEENSTRA, R. C. (2004): Advanced international trade: Theory and evidence. Princeton University, Princeton, New Jersey.
- GIBRAT, R. (1931): Les inegalités economiques. Applications: Aux inégalités des richesses, a la concentration des entreprises, aux populations des villes, aux statistiques des familles, etc., d'une loi nouvelle: La loi de l'effect proportionnel. Librairie du Recueil Sirey, Paris.
- GROSSMAN, G. M., AND E. ROSSI-HANSBERG (2008): "Trading Tasks: A Simple Theory of Offshoring," American Economic Review, 98(5), 1978–97.
- HANSON, G., N. LIND, AND M.-A. MUENDLER (2013): "The Empirical Dynamics of Comparative Advantage," UC San Diego, unpublished manuscript (*conference.nber.org/confer/2013/ITIf13/Hanson_Lind_Muendler.pdf*).
- HARRISON, A., J. MCLAREN, AND M. MCMILLAN (2011): "Recent Perspectives on Trade and Inequality," Annual Review of Economics, 3(1), 261–89.
- HEAD, K., AND T. MAYER (2014): "Gravity Equations: Workhorse, Toolkit, and Cookbook," in *Handbook of International Economics*, ed. by E. Helpman, K. Rogoff, and G. Gopinath, vol. 4, chap. 3, p. 131195. Elsevier, Amsterdam.
- HELPMAN, E. (2006): "Trade, FDI, and the Organization of Firms," Journal of Economic Literature, 44(3), 589-630.
- HELPMAN, E., O. ITSKHOKI, AND S. REDDING (2010): "Inequality and Unemployment in a Global Economy," *Econometrica*, 78(4), 1239–1283.

- HELPMAN, E., M. MELITZ, AND Y. RUBINSTEIN (2008): "Estimating Trade Flows: Trading Partners and Trading Volumes," *Quarterly Journal of Economics*, 123(2), 441–87.
- JENSEN, J. B., AND L. G. KLETZER (2010): "Measuring Tradable Services and the Task Content of Offshorable Services Jobs," in *Labor in the New Economy*, ed. by K. G. Abraham, J. R. Spletzer, and M. J. Harper, no. 71 in Studies in Income and Wealth, chap. 8, pp. 309–35. University of Chicago Press, Chicago and London.
- JOHNSON, R. C. (2014): "Five Facts about Value-Added Exports and Implications for Macroeconomics and Trade Research," *Journal of Economic Perspectives*, 28(2), 119–42.
- JOHNSON, R. C., AND G. NOGUERA (2012): "Accounting for Intermediates: Production Sharing and Trade in Value Added," *Journal of International Economics*, 86(2), 224–36.
- KOOPMAN, R., Z. WANG, AND S. J. WEI (2014): "Tracing Value-Added and Double Counting in Gross Exports," American Economic Review, 104(2), 459–94.
- LEAMER, E. E., AND M. STORPER (2001): "The Economic Geography of the Internet Age," *Journal of International Business Studies*, 32(4), 641–65.
- LEONTIEF, W. (1953): "Domestic Production and Foreign Trade; The American Capital Position Re-Examined," *Proceedings of the American Philosophical Society*, 97(4), 332–349.
- LEVCHENKO, A. A., AND J. ZHANG (2011): "The Evolution of Comparative Advantage: Measurement and Welfare Implications," *NBER Working Paper*, 16806.

LEVY, F., AND R. J. MURNANE (2004): The New Division of Labor. Princeton University Press, Princeton.

- MELITZ, M. J. (2003): "The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity," Econometrica, 71(6), 1695–1725.
- MELITZ, M. J., AND S. J. REDDING (2014a): "Heterogeneous Firms and Trade," in *Handbook of International Economics*, ed. by E. Helpman, K. Rogoff, and G. Gopinath, vol. 4, chap. 1, pp. 1–54. Elsevier, Amsterdam.

(2014b): "Missing Gains from Trade?," American Economic Review, 104(5), 317–21.

------ (2015): "New Trade Models, New Welfare Implications," American Economic Review, 105(3), 1105-46.

- MELITZ, M. J., AND D. TREFLER (2012): "Gains from Trade When Firms Matter," *Journal of Economic Perspectives*, 26(2), 91–118.
- MOREIRA, M. (2008): "A Maximum Likelihood Method for the Incidental Parameter Problem," NBER Working Paper, 13787.
- MUENDLER, M.-A., AND S. O. BECKER (2010): "Margins of Multinational Labor Substitution," American Economic Review, 100(5), 1999–2030.
- NUNN, N., AND D. TREFLER (2008): "The Boundaries of the Multinational Firm: An Empirical Analysis," in *The Organization of Firms in a Global Economy*, ed. by E. Helpman, D. Marin, and T. Verdier, chap. 1, pp. 55–83. Harvard University Press, Cambridge, Mass.
- OHLIN, B. (1931): Interregional and International Trade, vol. 39 of Harvard Economic Studies. Harvard University, Cambridge, 2nd (1952) edn., Chapter 6, pp. 91-113.
- ROBERTS, M. J., AND J. R. TYBOUT (1997): "The Decision to Export in Colombia: An Empirical Model of Entry with Sunk Costs," *American Economic Review*, 87(4), 545–64.
- SIMONOVSKA, I., AND M. E. WAUGH (2014): "The Elasticity of Trade: Estimates and Evidence," Journal of International Economics, 92(1), 34–50.
- SUTTON, J. (1997): "Gibrat's Legacy," Journal of Economic Literature, 35(1), 40–59.

- TINTELNOT, F. (2014): "Global Production with Export Platforms," University of Chicago, unpublished manuscript.
- TREFLER, D. (1995): "The Case of the Missing Trade and Other Mysteries," American Economic Review, 85(5), 1029–46.